

## EMMA E. GOLDBERG

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### EDUCATION

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|---|-------------|
| <i>University of California, San Diego</i>                    | 2002 – 2007 |
| Ph.D., Division of Biological Sciences<br>advisor: Russ Lande |             |
| <i>University of California, Berkeley</i>                     | 2000 – 2002 |
| Graduate courses in physics and biology                       |             |
| <i>California Institute of Technology</i>                     | 1995 – 1999 |
| Bachelor of Science in physics, with honors                   |             |

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### EMPLOYMENT

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| <i>University of Minnesota</i>                   | 2014 – present |
| Assistant Professor                              |                |
| <i>University of Illinois at Chicago</i>         |                |
| Visiting research assistant professor            | 2010 – 2013    |
| Postdoctoral research associate                  | 2008 – 2010    |
| sponsor/supervisor: Boris Igić                   |                |
| <i>University of Maryland at College Park</i>    | 2007 – 2009    |
| Postdoctoral research associate                  |                |
| supervisor: Bill Fagan                           |                |
| <i>United States Forest Service</i>              | 2002           |
| Biological science technician, amphibian surveys |                |

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### FUNDING AWARDS

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| <i>Binational Science Foundation, 2013286</i>  | 2014 – 2016 |
| “Interacting Effects of Polyploidy and Breeding Systems on Rates of Evolution”<br>Itay Mayrose and I are P.I.s.              |             |
| <i>National Science Foundation, DEB-1120279</i>  | 2011 – 2014 |
| “Phylogenetic Models of Macroevolution”<br>I am P.I.; Boris Igić is co-P.I.  |             |
| <i>National Science Foundation, DEB-0919089</i>  | 2009 – 2013 |
| “The History and Consequences of Self-Incompatibility”<br>Boris Igić is P.I.; I co-wrote the sections supporting my research |             |
| <i>National Science Foundation, Graduate Research Fellowship</i>   | 2003 – 2006 |
| Support for graduate work  |             |
| <i>Dept. of Education Fellowship</i>   | 2000 – 2001 |
| Support for graduate work  |             |

**Peer-reviewed articles**

- Servedio, M.R., Y. Brandvain, S. Dhole, C.L. Fitzpatrick, E.E. Goldberg, C.A. Stern, J. Van Cleve, D.J. Yeh. (in press). Not just a theory: The utility of mathematical models in evolutionary biology. *PLOS Biology*.
- The Tree of Sex Consortium: T.-L. Ashman, D. Bachtrog, H. Blackmon, E.E. Goldberg, M.W. Hahn, M. Kirkpatrick, J. Kitano, J.E. Mank, I. Mayrose, R. Ming, S.P. Otto, C.L. Peichel, M.W. Pennell, N. Perrin, L. Ross, N. Valenzuela, J.C. Vamasi. 2014. Tree of sex: A database of sexual systems. *Scientific Data* 1:140015.
- Fagan, W.F., Y.E. Pearson, E.A. Larsen, H.J. Lynch, J.B. Turner, H. Staver, A.E. Noble, S. Bewick, and E.E. Goldberg. 2013. Phylogenetic prediction of the maximum per capita rate of population growth. *Proceedings of the Royal Society B* 280:20130523.
- Goldberg, E.E. and B. Igić. 2012. Tempo and mode in plant breeding system evolution. *Evolution* 66: 3701–3709.
- Goldberg, E.E., R. Lande, and T.D. Price. 2012. Population regulation and character displacement in a seasonal environment. *The American Naturalist* 179:693–705.
- Goldberg, E.E., L.T. Lancaster, and R.H. Ree. 2011. Phylogenetic inference of reciprocal effects between geographic range evolution and diversification. *Systematic Biology* 60:451–465.
- Anacker, B.L.\*, J.B. Whittall\*, E.E. Goldberg, and S.P. Harrison. 2011. Origins and consequences of serpentine endemism in the California flora. *Evolution* 65:365–376.
- Robertson, K.A., E.E. Goldberg, and B. Igić. 2011. Comparative evidence for the correlated evolution of polyploidy and self-compatibility in Solanaceae. *Evolution* 65:139–155.
- Goldberg, E.E., J.R. Kohn, R. Lande, K.A. Robertson, S.A. Smith, and B. Igić. 2010. Species selection maintains self-incompatibility. *Science* 320: 493–495.
- Goldberg, E.E., H.J. Lynch, M.G. Neubert, and W.F. Fagan. 2010. Effects of branching spatial structure and life history on the asymptotic growth rate of a population. *Theoretical Ecology* 3:137–152.
- Goldberg, E.E.\* and B. Igić\*. 2008. On phylogenetic tests of irreversible evolution. *Evolution* 62: 2727–2741.
- Goldberg, E.E. and R. Lande. 2007. Species’ borders and dispersal barriers. *The American Naturalist* 170: 297–304.
- Roy, K.\* and E.E. Goldberg\*. 2007. Origination, extinction and dispersal: integrative models for understanding present-day diversity gradients. *The American Naturalist* 170: S71–S85.
- Goldberg, E.E. and R. Lande. 2006. Ecological and reproductive character displacement on an environmental gradient. *Evolution* 60:1344–1357.
- Goldberg, E.E., K. Roy, R. Lande, and D. Jablonski. 2005. Diversity, endemism, and age distributions in macroevolutionary sources and sinks. *The American Naturalist* 165: 623–633.

**Book chapter**

- Goldberg, E.E. 2013. Species selection. In J. Losos, ed. *The Princeton Guide to Evolution*. Princeton University Press.

### ***Submitted manuscripts***

- Huang, D., E.E. Goldberg, and K. Roy. (in revision). Fossils, phylogenies, and the challenge of preserving evolutionary history in the face of anthropogenic extinctions. *Proceedings of the National Academy of Sciences USA*.
- Rabosky, D.\* and E.E. Goldberg\*. (in revision). Model inadequacy and mistaken inferences of trait-dependent speciation. *Systematic Biology*.

\* *equal contributions*

### **PEER REVIEWING**

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*The American Naturalist, Biological Journal of the Linnean Society, Ecography, Ecological Modelling, Ecology and Evolution, Ecology Letters, Evolution, Evolutionary Biology, Global Ecology and Biogeography, International Journal of Plant Sciences, Journal of Biogeography, Journal of Evolutionary Biology, Journal of the Royal Society Interface, Molecular Biology and Evolution, Nature, Nature Communications, New Phytologist, PLoS Biology, PLoS ONE, Proceedings of the National Academy of Sciences USA, Proceedings of the Royal Society of London Series B, Systematic Biology; National Science Foundation, ad hoc & panel*

### **TEACHING**

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| <i>Nature of Life</i>  | 2014        |
| Spatial ecology module at the UMN freshman retreat.                    |             |
| <i>Graduate Teaching Assistant, UC San Diego</i>                       | 2004 – 2005 |
| Quantitative Ecology and Conservation. Biometry. Introductory Ecology. |             |
| <i>Graduate Student Assistant, UC Berkeley</i>                         | 2000 – 2002 |
| Thermodynamics. Electricity & Magnetism.                               |             |

### **INVITED PARTICIPATION**

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#### ***Conference talks***

*Society for the Study of Evolution / American Society of Naturalists / Society of Systematic Biologists*

- “Reuniting fossil and extant approaches to macroevolution” SSE symposium (Raleigh, North Carolina) 2014
- “Unified approaches for understanding patterns of character evolution and diversification” SSB symposium (Norman, Oklahoma) 2011
- “The future of historical biogeography: conceptual and methodological challenges” SSB symposium (Portland, Oregon) 2010

*European Society for Evolutionary Biology*

- “Predicting macroevolution from microevolution” symposium (Tübingen, Germany) 2011

*Okazaki Biology Conference*

- “The Biology of Extinction 2” (Okazaki, Japan) 2006

## **Workshops**

### *National Evolutionary Synthesis Center*

- “Linking self-fertilization, dispersal and distribution traits of species: Is Baker’s law an exception to the rule?” 2013 – 2015
- “Integrating approaches to macroevolution: combining fossils and phylogenies” 2013
- “The tree of sex: A comprehensive synthesis of sex determination systems in eukaryotes” 2012 – 2014

### *National Socio-Environmental Synthesis Center*

- “Macroevolution of ecosystem services” 2012

### *Silwood Park, Imperial College, London*

- “Evolution, ecology and spatial biology” 2008

### *National Center for Ecological Analysis and Synthesis*

- “Conservation priorities: can we have our biodiversity and ecosystem services too?” 2006

## **Departmental seminars**

Univ. Oxford (2013). Univ. Edinburgh (2013). Univ. North Carolina (2013). Univ. Idaho (2013). Univ. Minnesota (2012). Univ. California, San Diego (2012). Univ. Chicago (2012). Univ. Oregon (2012). Stanford University (2012). Univ. New Mexico (2011). Univ. Illinois at Chicago (2011). Univ. British Columbia (2009). New Mexico Institute of Mining and Technology (2009). Univ. Western Australia (2008). Univ. Virginia (2008).