

STEPHEN R. PROULX

Curriculum Vitae

Assistant Professor
Iowa State University
Ecology, Evolution & Organismal Biology
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EDUCATION

- Ph.D.** University of Utah, Department of Biology, May 2000
Thesis advisor: Frederick R. Adler
- B.A.** University of California, Santa Cruz, 1993
Majors in Mathematics and Biology
Thesis advisors: Burney LeBoeuf and Marshall Sylvan

PROFESSIONAL EXPERIENCE

- 2008** Assistant Professor, University of California, Santa Barbara (Starting 8/08)
- 2005-08** Assistant Professor, Iowa State University
- 2001-05** Postdoctoral Associate, University of Oregon
Center for Ecology and Evolutionary Biology and
NSF IGERT program in Evolution, Development, and Genomics
- 2000-01** Postdoctoral Fellow, University of Toronto

HONORS

- 1993** Honors in Mathematics, University of California, Santa Cruz
- 1993** Honors in Biology, University of California, Santa Cruz

GRANTS AND AWARDS

- 2008-11** The origin of genetic interactions by natural selection, NSF \$564,791
- 2006** ISU LASCAC Award for Mobile Computing Lab (with
Dennis Lavrov) (\approx \$27,000)
- 2005** National Evolutionary Synthesis Center award for catalysis
meeting, "Genetic Network Evolution" (\approx \$45,000)
- 2003** NIH NRSA Postdoctoral Fellowship—Robustness and Genetic
Variation in Gene Networks. \$98,000.

- 1999 University of Utah Graduate School Travel Award
- 1996 Sigma Xi Grant in Aid

INVITED SEMINARS AND PRESENTATIONS

- 2008 ISU GDCB departmental seminar
- 2007 EPA International Science Forum on Computational Toxicology, Plenary Speaker
- 2007 University of North Carolina
- 2007 University of Nebraska, Lincoln
- 2006 UC Davis, Symposium on Biological Networks
- 2005 University of Iowa
- 2004 Gulbenkian Institute, Lisbon, Portugal
- 2004 Indiana/Oregon IGERT Symposium: The Evolution of Gene Regulation
- 2004 Dept of Genome Sciences, University of Washington
- 2004 Dept of Biology, Texas A&M University
- 2003 Institute of Biomedical and Life Sciences, University of Glasgow
- 2002 School of Biology, University of St. Andrews
- 2002 Dept of Biology, Colorado State University
- 2001 Dept of Biology, University of South Florida
- 2000 Ecology and Evolutionary Biology, University of Tennessee
- 2000 Connectivity of Migratory Birds Workshop

WORKSHOPS, SYMPOSIA, AND SPECIALIZED COURSES

- 2007-8 National Evolutionary Synthesis Center working group, "Genetic Network Evolution"
- 2007 Santa Fe Institute workshop on "Complexities in Aging"
- 2006 SSE Symposia: Alternative Perspectives on Evolutionary Dynamics, (Organizer with Richard Gomulkiewicz)
- 2006 National Evolutionary Synthesis Center Catalysis Meeting, Genetic Network Evolution (Co-organizer with Daniel Promislow and Matthew Hahn)
- 2005-6 Special Seminar in Mathematical Biology, ISU, Co-Organizer
- 2002 Gordon Conference on Bioinformatics and Theoretical Biology, Tilton, New Hampshire
- 1999 European Science Foundation Workshop—Selection in Genetically and Spatially Structured Populations, Edinburgh, UK
- 1995 Special Year in Mathematical Biology, Salt Lake City, Utah

PROFESSIONAL SERVICE

Manuscript referee for *American Naturalist*; *Evolution*; *PLoS Biology*; *TREE*; *Genetics*; *Oikos*; *Behavioral Ecology*; *The Journal of Theoretical Biology*; *Theoretical Population Biology*; *Ecology Letters*; *Ecological Applications*; *BMC Evolution*; *Organisms, Diversity, and Evolution*; *Behavioral Ecology and Sociobiology*; *Proceedings: Biological Sciences*; *Royal Society: Interface*; and Princeton University Press.

External reviewer for NSF programs in Population and Evolutionary Processes, Systematic Biology, and International Research Fellowships.

External reviewer for UK NERC Grants and Fellowships.

- 2007** PSI Epistasis Symposium organizing committee
- 2007** EEOB Faculty Search
- 2007** BCB Admissions Committee
- 2006** Graduate Studies Committee, EEOB department
- 2006** BCB Admissions Committee
- 2005** IT committee, EEOB Department
- 2002-3** Seminar Series Coordinator, UO CEEB
- 1994-9** Graduate Student Representative–Biology Computing Committee
- 1995** Graduate Student Representative–Faculty Committee
- 1992-3** Undergraduate Student Representative–Academic Freedom Committee

PUBLICATIONS: IN PREP

- 25. **Proulx, S. R.** and Servedio, M. Measuring the relative likelihood of mating system evolution under reinforcement.

PUBLICATIONS: BOOK REVIEWS, CONTRIBUTED CHAPTERS, AND INVITED COMMENTARY

- 24. **Proulx, S. R.** 2006. Box: Gene interaction networks and their evolution. To appear in *Evolutionary Genetics: Concepts and Case Studies*. Fox, C. W. and Wolf, J. B. Eds.
- 23. **Proulx, S. R.** 2004. Does sex age you? Science's Aging Knowledge Environment 2004(14) pp. pe14. <http://sageke.sciencemag.org/cgi/content/full/2004/14/pe14>.
- 22. **Proulx, S.** 2003. Book Review–Sex Ratios: concepts and research methods, Edited by Ian C. W. Hardy. *American Journal of Human Biology* 15(2):236-237.

PUBLICATIONS: PEER REVIEWED

21. O'Fallon, B., Adler, F. R., and **Proulx, S. R.** 2007. Quasispecies evolution in subdivided populations favors maximally deleterious mutations. *Proceedings: Biological Sciences* <http://dx.doi.org/10.1098/rspb.2007.1228>
20. **Proulx, S. R.**, Promislow, D., and Nuzhdin, S. 2007. Direct selection on genetic robustness is revealed in the yeast transcriptome. *PLoS ONE* 2(9): e911, <http://dx.doi.org/10.1371/journal.pone.0000911>
19. Anderson, J. L., Albergotti, L., **Proulx, S. R.**, Peden, C., Huey, R. B., Phillips, P. C. 2007. Thermal preference of *Caenorhabditis elegans*: a null model and empirical tests. *The Journal of Experimental Biology* 210:3107-3116.
18. Teotónio, H., Rose, M. R., **Proulx, S. R.** 2007. Phenotypic plasticity and evolvability: an empirical test with experimental evolution. *Phenotypic Plasticity in Insects* (in press). D. Whitman and T. N. Ananthakrishnan, Eds. Science Publishers, Inc. Plymouth, UK.
17. Shpak, M. and **Proulx, S. R.** 2007. The role of life cycle and migration in selection for variance in offspring number. *Bulletin of Mathematical Biology* 69(3):837-860.
16. Yu, D. W., **Proulx, S. R.**, Shepard, G. H. 2007. Masculinity, culture and the Paradox of the Lek. *The Body Beautiful* . Viren Swami and Adrian Furnham, Eds. Palgrave Macmillan Publishers.
15. **Proulx, S. R.**, Phillips, P. C. 2006. Allelic divergence precedes and promotes gene duplication. *Evolution* 60(5):881-892.
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14. **Proulx, S. R.**, Promislow, D., and Phillips, P. C. 2005. Network thinking in ecology and evolution. *Trends in Ecology and Evolution* 20(6):345-353.
13. **Proulx, S. R.**, Phillips, P. C. 2005. The opportunity for canalization and the evolution of genetic networks. *The American Naturalist* 165(2):147-162.
<http://www.journals.uchicago.edu/AN/journal/issues/v165n2/40509/40509.html>.
Science Direct Top 25 Hottest Article
12. Force, A., Cresko, W., Pickett, B., **Proulx, S. R.**, Amemiya, C., Lynch, M. 2005. The origin of subfunctions and modular gene regulation. *Genetics* 170: 433-446.

11. Day, T., **Proulx, S. R.** 2004. A general theory for the evolutionary dynamics of virulence. *The American Naturalist* 163(4):E40-E63
<http://www.journals.uchicago.edu/AN/journal/issues/v163n4/30057/30057.html>.
10. **Proulx, S. R.** 2004. Sources of stochasticity in models of sex allocation in spatially structured populations. *The Journal of Evolutionary Biology* 17:924-930.
9. Lorch, P. **Proulx, S.** , Day, T. and Rowe, L. 2003. Condition dependent sexual selection accelerates adaptation by natural selection. *Evolutionary Ecology Research* 5(6):867-881.
8. **Proulx, S. R.**, Day, T. and Rowe, L. 2002. Older males signal more reliably. *Proceedings: Biological Sciences* 269:2291-2299.
7. **Proulx, S. R.** 2002. Niche shifts and expansion due to sexual selection. *Evolutionary Ecology Research* 4:351-369.
6. **Proulx, S. R.** and Day, T. 2001. What can invasion analyses tell us about evolution under stochasticity in finite populations? *Selection: Molecules, Genes, and Memes* 2:2-15.
5. **Proulx, S. R.** 2001. Female choice via indicator traits easily evolves in the face of recombination and migration. *Evolution* 55(12):2401-2411.
4. **Proulx, S. R.** 2001. Can behavioural constraints alter the stability of signalling equilibria? *Proceedings of the Royal Society of London, B* 268:2307-2313.
3. Yook, K., **Proulx, S. R.**, Jorgenson, E. 2001, Rules of nonallelic noncomplementation at the synapse in *Caenorhabditis elegans*. *Genetics* 158(1):209-220.
2. **Proulx, S. R.** 2000. The ESS under spatial variation with applications to sex allocation. *Theoretical Population Biology* 58(1):33-47.
1. **Proulx, S. R.** 1999. Matings systems and the evolution of niche breadth. *The American Naturalist* 154(1):89-98.