CV: Daniel B. Weissman

daniel.weissman@emory.edu; http://weissmanlab.github.io
Math & Science Center N244, Dept. of Physics, Emory University, Atlanta, GA 30322

Education

PhD, Stanford University, 2010. Physics. Thesis: "Epistasis and Evolution". Advisors: Marc Feldman, Daniel Fisher.

BA, Harvard College, 2005. Physics and Mathematics

Positions

2017– : Associated Assistant Professor of Biology, Emory University

2015– : Assistant Professor of Physics, Emory University

2014–2015 : Postdoctoral researcher, UC Berkeley (adviser: Oskar Hallatschek)

2014: Research Fellow, Simons Institute for the Theory of Computing, UC Berkeley

2010–2013: Postdoctoral researcher, IST Austria (adviser: Nicholas Barton)

2006–2010: Research assistant, Stanford University (advisers: Marcus Feldman, Daniel Fisher)

Fellowships

2017–2022: Simons Investigator Award in the Mathematical Modeling of Living Systems

2014: Research Fellowship, Simons Institute for the Theory of Computing

2008–2010: Stanford Graduate Fellowship

2005–2008: NSF Graduate Research Fellowship

2005: University of Cambridge, Herchel Smith Scholarship (declined)

Invited/prize talks

TBA (12/2017) Cold Spring Harbor Laboratory, Quantitative Biology Seminar.

"Minimal-assumption historical inference from population-genomic data." (2017) Harvard University.

"Inferring population dynamics from genomic diversity." (2017) Tel Aviv University.

"Minimal-assumption inference from genomes." (2016) Aspen Center for Physics: Populations, Evolution, and Physics conference.

"The rate and dynamics of complex adaptation." (2013) University of Lausanne: Department of Ecology & Evolution seminar.

"The genomic effects of selective sweeps." (2012) University of Vienna.

"The dynamics of complex adaptation." (2012) University of St. Andrews.

"Patterns of diversity in adapting, spatially-extended populations." (2012) Population Genetics Group, Glasgow. 2nd prize, postdoc/faculty talks.

"The effects of sweeps in large sexual populations." (2012) University of Edinburgh: Institute of Evolutionary Biology seminar.

"The rate of complex adaptation." (2010) University of Illinois at Urbana-Champaign.

Service

Professional

Reviewed for (among others): American Naturalist, Evolution, Genetics, Israel Science Foundation, Journal of Evolutionary Biology, Journal of the Royal Society Interface, Journal of Theoretical Biology, Molecular Ecology, Nature Communications, Physical Review E, Physical Review Letters, PLOS Biology, PLOS Computational Biology, PLOS Genetics, PNAS, Scientific Reports, Theoretical Population Biology.

Community outreach

- Stanford Science Bus: Science enrichment teacher in East Palo Alto Charter School, 2006–2010.
- Boston Refugee Youth Enrichment: Science teacher, 2001–2005. Science director, 2002–2005. Summer school teacher, 2003. Support staff, 2005. Mentor, 2002–present

Publications

DBW, Hallatschek O (2017) Minimal-assumption inference from population-genomic data. eLife 6: e24836.

Delarue M, **DBW**, Hallatschek O (2017) A simple molecular mechanism explains multiple patterns of cell-size regulation. PLoS ONE 12: e0182633.

Sobel Leonard A, **DBW**, Greenbaum BD, Ghedin E, Koelle K (2017) Transmission bottleneck size estimation from pathogen deep-sequencing data, with an application to human influenza A virus. Journal of Virology 91: e00171–17.

DBW (2016) Ancestry in adapting, spatially-extended populations. bioRxiv: 084426.

Van Cleve J, **DBW** (2015) Measuring ruggedness in fitness landscapes. Proceedings of the National Academy of Sciences 112: 7345–7346.

Arbilly M, **DBW**, Grodzinski U, Feldman MW (2014) Arms races between producers and scroungers can drive the evolution of social cognition. Behavioral Ecology 25: 487–495.

DBW (2014) Stress-induced variation can cause average mutation and recombination rates to be positively correlated with fitness. ALIFE 14: 43–44.

DBW, Hallatschek O (2014) The rate of adaptation in large sexual populations with linear chromosomes. Genetics 196: 1167–1183.

Trotter MV, **DBW**, Peterson GI, Peck KM, Masel J (2014) Cryptic genetic variation can make "irreducible complexity" a common mode of adaptation in sexual populations. Evolution 68: 3357–3367.

DBW, Barton NH (2012) Limits to the rate of adaptive substitution in sexual populations. PLoS Genetics 8: e1002740.

DBW, Feldman MW, Fisher DS (2010) The rate of fitness-valley crossing in sexual populations. Genetics 186: 1389–1410.

DBW, Desai MM, Fisher DS, Feldman MW (2009) The rate at which asexual populations cross fitness valleys. Theoretical Population Biology 75: 286–300.

Desai MM, **DBW**, Feldman MW (2007) Evolution can favor antagonistic epistasis. Genetics 177: 1001–1010.