Mitchell G. Newberry

Weiser Hall 711 500 Church St Ann Arbor, MI 48109-1042

email: mgnew@umich.edu github: https://github.com/mnewberry

Google Scholar: https://scholar.google.com/citations?user=suSGxQ8AAAAJ

ACADEMIC University of Michigan

Autumn 2018 - Spring 2021

Fellow, Michigan Society of Fellows Assistant Professor of Complex Systems

University of Pennsylvania

Autumn 2012 - Summer 2018

Ph. D. Biology

Advisor: Joshua Plotkin

Thesis: Null Models for Cultural and Social Evolution

Harvard Medical School, Dept. of Systems Biology Winter 2012 - Summer 2012

Visiting Research Fellow Advisor: Walter Fontana

University of California, Los Angeles

Autumn 2010 - Summer 2011

M. Sc. Biomathematics Advisor: Van Savage

Thesis: Automated measurements of vessel networks from MRI and comparison to scaling theory

Friday Harbor Laboratories, University of Washington

Spring 2007

Undergraduate Research Apprentice in Community Ecology

University of Washington B. Sc. Physics

Autumn 2001 - Autumn 2004

Seattle Central Community College

Autumn 2000 - Spring 2001

Publications

Newberry, M. G.¹, Ahern, C. A.¹, Clark, R., Plotkin, J. B. (2017). Detecting evolutionary forces in language change. *Nature* **551**, 223-226. doi:10.1038/nature24455

Media coverage: **AXIOS**, **Atlantic, the guardian, Science, and others

Tekin, E., Hunt, D., <u>Newberry, M. G.</u>, Savage, V. M. (2016). Do vascular networks branch optimally or randomly across spatial scales? *PLoS Computational Biology 12(11)*, p.e1005223. doi:10.1371/journal.pcbi.1005223

Newberry, M. G., McCandlish, D. M., Plotkin, J. B. (2016). Assortative mating can impede or facilitate fixation of underdominant alleles. *Theoretical Population Biology* 112, 14-21. doi:10.1016/j.tpb.2016.07.003

Newberry, M. G., Ennis, D. B., Savage, V. M. (2015). Testing foundations of biological scaling theory using automated measurements of vascular networks. *PLoS Computational Biology* 11(8), e1004455. doi:10.1371/journal.pcbi.1004455

Software

Newberry, M. C., (2014-2017) Stemmanator: Use algorithms from phylogenetics to create a stemma codicum. http://stemmanator.org

Newberry, M. G., (2013) Signalarium: On-the-fly protein-protein interaction database.

https://github.com/mnewberry/signalarium

Newberry, M. G., (2011-2017) Angicart: Segment vessel systems from radiographic images.

https://github.com/mnewberry/angicart

TEACHING

Designed and taught *Intro to Data Visualization* at Department of Making and Doing
Teaching Assistantship, BIO 446, Statistics for Biologists, at University of Pennsylvania
Teaching Assistantship, BIO 446, Statistics for Biologists, at University of Pennsylvania
Designed and taught *Math Kung Fu* at The Public School, Los Angeles

Physics Lab Instructor at Garfield High School, Seattle, WA *April 29, 2015 Autumn 2014 Summer, 2011 Spring 2006*

¹Joint first authors

Professional	Border Stylo Senior Engineer	June 2009 - July 2010
	Institute for Environmental Research and Education Software Development Consultant	Feb. 2008 - June 2009
	SiteScout (acquired by Rubicon Project) Software Developer	June 2006 - Jan. 2008
	Pacific Wildland Fire Science Laboratory, US Forest Service Data Analyst, Field technician, Systems Administrator	July 2002 - Nov. 2005
	Seattle Central Community College Computer Lab Assistant	Oct. 2000 - Aug. 2001
Academic Honors	Fellowship, Michigan Society of Fellows SAS Dissertation Completion Fellowship, University of Pennsylvania	2018 2017
	Biology Departmental Teaching Award, University of Pennsylvania	2017
Reviewer	Proceedings of the Royal Society B	
SERVICE AND	Philadelphia Traction Company Scientist in Residence	2012 - 2018
Community	The Hacktory Volunteer	Oct 2016 - May 2018
	Philadelphia Botanical Club Member	A
	Department of Making and Doing <i>Power User (advisory board)</i> Manning Publications Co Technical Proofreader for <i>Gnuplot in Action</i>	April - Oct. 2015 Oct. 2008
	San Juan Monitoring Project Relational Database Consultant	May. 2007 - Feb. 2008
	University of Washington Botany Greenhouse Volunteer	Nov. 2006 - Mar. 2007
	Seattle Community Colocation Project Founding Member	June 2004 - Present
Talks	Complex Systems Seminar, University of Michigan	2018
	PPRC Ecology Conference, Columbia University	2017
	Philadelphia Evolution Group mixer, Drexel University	2016
	Acetarium Residency talk, Boston, MA	2014
	New England Complex Systems Institute, Boston, MA	2014
	PPRC Ecology Conference, Columbia University	2013
	Toorcamp, Neah Bay, WA	2012