

Joshua A Shapiro

Bryn Mawr College
Department of Biology

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EDUCATION **Ph.D. University of Chicago** 2007
Department of Ecology and Evolution
Dissertation: Selection and Structure in *Drosophila* Populations During the
Process of Speciation

B.A. Williams College 1998
Summa Cum Laude with Highest Honors in Biology
Thesis: Population Structure and Gene Flow in Chorus Frog Tadpoles
(*Pseudacris triseriata*) on North Government Island

PROFESSIONAL APPOINTMENTS **Assistant Professor** 2013–present
Bryn Mawr College, Department of Biology, Bryn Mawr PA

Visiting Assistant Professor 2011–2013
Bryn Mawr College, Department of Biology, Bryn Mawr PA

Associate Professional Specialist 2011–2013
Princeton University, Lewis-Sigler Institute for Integrative Genomics,
Princeton NJ

Lecturer 2008–2009
Princeton University, Lewis-Sigler Institute for Integrative Genomics,
Princeton NJ

Post-Doctoral Research Associate 2006–2011
Princeton University, Lewis-Sigler Institute for Integrative Genomics,
Princeton NJ

PUBLICATIONS Z Wang, X Guo, R Zhang, Y Li, OP Ishchuk, KM Ahmad, J Wee, J Piskur, **JA Shapiro**, Z Gu (2019) Understand the genomic diversity and evolution of fungal pathogen *Candida glabrata* by genome-wide analysis of genetic variations. *Methods* (in press)

P Hyson, **JA Shapiro**, M Wien (2015) Draft genome sequence of *Exiguobacterium* sp. strain BMC-KP, an environmental isolate in Bryn Mawr, Pennsylvania. *Genome Announcements* 3(5):e1164-15

N Naseer[†], **JA Shapiro**, M Chander (2014) RNA-seq analysis reveals a six-gene SoxR regulon in *Streptomyces coelicolor*. *PLOS One* e106181

EC Andersen*, JP Gerke*, **JA Shapiro***, JR Crissman, R Ghosh, JS Bloom, M-A Félix, L Kruglyak (2012) Chromosome-scale selective sweeps shape *Caenorhabditis elegans* genomic diversity. *Nature Genetics* 44:285-290

- R Ghosh, EC Andersen, **JA Shapiro**, JP Gerke, L Kruglyak (2012) Natural variation in a chloride channel subunit confers avermectin resistance in *C. elegans*. *Science* 355:574-578
- X-M Lu*, **JA Shapiro***, C-T Ting, Y Li, C Li, J, Xu, Y-J Chen, AJ Greenberg, S-H Li, C-I Wu (2010) Genome-wide mis-expression of X-linked vs. autosomal genes associated with hybrid male sterility. *Genome Research* 20:1097-1102
- IM Ehrenreich, N Torabi, Y Jia, J Kent, S Martis, **JA Shapiro**, D Gresham, A Caudy, L Kruglyak (2010) Dissection of genetically complex traits with extremely large pools of yeast segregants. *Nature* 464:1039-1042
- J Schacherer*, **JA Shapiro***, DM Ruderfer, L Kruglyak (2009) Comprehensive polymorphism survey elucidates population structure of *Saccharomyces cerevisiae*. *Nature* 458:342-345
- MH Kohn, **JA Shapiro**, C-I Wu (2008) Decoupled differentiation of gene expression and coding sequence among *Drosophila* populations. *Genes & Genetic Systems* 83: 265-273
- JA Shapiro**, W Huang, C Zhang, J Lu, DA Turissini, S Fang, H-Y Wang, RR Hudson, C-I Wu (2007) Adaptive genic evolution in the *Drosophila* genomes. *Proceedings of the National Academy of Sciences USA* 104:2271-2276
- S Lee, J Bao, G Zhou, **JA Shapiro**, J Xu *et al.* (2005) Detecting novel low-abundant transcripts in *Drosophila*. *RNA* 11: 939-946
- PP Reddi, AM Shore, **JA Shapiro**, A Anderson, MH Stoler, KK Acharya (2003) Spermatid-specific promoter of the SP-10 gene functions as an insulator in somatic cells. *Developmental Biology* 262:173-182

* Equal authorship contribution

† Undergraduate coauthor

TEACHING EXPERIENCE

Bryn Mawr College Assistant Professor Fall 2013-present

BIOL B110: Biological Explorations

BIOL B115: Computing Through Biology (lecture and lab)

BIOL B215: Experimental Design and Statistics (lecture and lab)

BIOL B216: Genomics

BIOL B393: Senior Seminar in Molecular Genetics

BIOL B399: Senior Seminar in Laboratory Investigations

BIOL B403: Supervised Research

Guest Lectures:

BIOL B236: Evolution

BIOL B201: Genetics

Bryn Mawr College Visiting Assistant Professor Fall 2011-Spring 2013

BIOL B215: Experimental Design and Statistics (lecture and lab)

BIOL B216: Introduction to Genomics and Bioinformatics (lecture and lab)

BIOL B327: Evolutionary Genetics and Genomics

Princeton University Lecturer Fall 2008, Fall 2009

MOL 205: Genes, Health and Society

Guest Lectures:
EEB 524: Topics in Evolution

University of Chicago Graduate Teaching Assistant, 2001-2002
Evolution and Ecology
Grants, Publications and Professional Issues

**GRANTS
& HONORS**

HHMI New Directions in Teaching and Research Grant
Sep. 2015-Aug. 2016
Project Title: Characterizing structural genomic variation in *S. cerevisiae*
through nanopore sequencing.

HHMI New Directions in Teaching and Research Grant
Sep. 2013-Aug. 2014
Co-Award with Greg Davis
Project Title: Revealing the transcriptional mechanism of reproductive
plasticity in the pea aphid.

Post-Doctoral Poster Prize, Annual Meeting of the Society for Molecular
Biology and Evolution 2009

HHMI Pre-Doctoral Fellowship in Biological Sciences 2001-2006

NSF Graduate Research Fellowship (Declined) 2000

Honorable Mention, NSF Graduate Research Fellowship 1999

Fulbright Award (U.S. Student Program) Full grant to Australia 1999

Erastus C Benedict Prize in Biology, Williams College 1998

Phi Beta Kappa, Elected 1998

Sigma Xi, Elected 1998

PRESENTATIONS &
POSTERS

From RAPDs to nanopores: 20 years in population genetics. Williams College, May 2018, invited speaker

Nanopore sequencing of the pea aphid genome at an undergraduate college. Nanopore Community Meeting, December 2017, poster

Population genomics of wild yeast over decades in southeastern Pennsylvania. Annual Meeting of the Society for Molecular Biology and Evolution, July 2017, poster

Combining Introductory Biology and Computer Science with Jupyter. JupyterDay Philadelphia, May 2017, invited speaker

Selective sweeps in *C. elegans*. Villanova University, September 2014, invited speaker

Chromosome-scale selective sweeps in *C. elegans*. Franklin and Marshall College, October 2013, invited speaker

Little Worms, Big Brooms Chromosome-scale selective sweeps in *C. elegans*. Drexel University, June 2012, invited speaker

Chromosome-scale selective sweeps in *Caenorhabditis elegans*. Annual Meeting of the Society for Molecular Biology and Evolution 2012, poster

Chromosome-scale selective sweeps shape *Caenorhabditis elegans* genomic diversity. Evolution 2011, platform presentation

A survey of global *C. elegans* diversity by RAD-Seq. 2nd UK RAD Sequencing Meeting, August 2010, invited speaker

Selective effects of polymorphisms affecting gene expression in a global sample of *Saccharomyces cerevisiae*. Annual Meeting of the Society for Molecular Biology and Evolution 2010, poster

Genome-wide association mapping of gene expression variation in *S. cerevisiae*. Annual Meeting of the Society for Molecular Biology and Evolution 2009, poster

Association mapping of gene expression in *Saccharomyces cerevisiae*. Gordon Research Conference on Quantitative Genetics 2009, poster

Analysis and mapping of gene expression variation in *Saccharomyces cerevisiae*. Yeast Genetics and Molecular Biology Meeting 2008, poster

Gene expression variation in *Saccharomyces cerevisiae*. Evolution 2008, platform presentation

Population structure and evolutionary history of *Saccharomyces cerevisiae*. Cold Spring Harbor Labs: The Biology of Genomes 2007, poster

Genetic differentiation between behavioral races of *Drosophila melanogaster*. Drosophila Research Conference 2005, platform presentation

Changes in gene expression associated with *Ods* introgression-induced hybrid male sterility. Drosophila Research Conference 2004, poster

PROFESSIONAL
ACTIVITIES

Meetings:

April 2018: Workshop on Inclusive and Responsive Practices, Bryn Mawr College
December 2017: MinION Community Meeting, New York NY
July 2017: Annual Meeting of the Society for Molecular Biology and Evolution, Austin TX
June 2017: Teaching to Increase Diversity and Equity in STEM (TIDES) Summer Institute, Washington DC
January 2017: MinION Community Meeting, New York NY
July 2016: The Allied Genetics Conference, Orlando FL
January 2016: New York Area Population Genomics Workshop, Princeton NJ
December 2015: MinION Community Meeting, New York NY
August 2015: "Teaching to Increase Diversity and Equity: Scholarship and Practice" Workshop, Bryn Mawr PA
May 2015: Blended Learning in the Liberal Arts Conference, Bryn Mawr PA
January 2015: New York Area Population Genomics Workshop, New York NY
August 2014: GSA Yeast Genetics and Molecular Biology Meeting, Seattle WA
July 2014: TIDES grant summer retreat for "Enhancing Computation and Information Science Learning Opportunities for Women Leaders in STEM", Bryn Mawr PA
June 2014: Evolution 2014 (joint meeting of the SSE, SSB, and ASN), Raleigh NC
May 2014: Blended Learning in the Liberal Arts Conference, Bryn Mawr PA
March-May 2014: Melon-TriCo Faculty Forum, "The Controversy and Alternatives to Statistical Testing", Bryn Mawr PA
July 2013: Society for Molecular Biology and Evolution Meeting, Chicago IL
August 2012: GSA Yeast Genetics and Molecular Biology Meeting, Princeton NJ
June 2012: Society for Molecular Biology and Evolution Meeting, Dublin Ireland
July 2011: Evolution 2011(joint meeting of the SSE, SSB, and ASN), Norman OK

Reviewer for:

Graduate Research Fellowship Program (GRFP) panelist, 2018
Evo-Devo-Eco Network Research Exchange Program, 2013

Ad Hoc Article Reviews for:

Bioinformatics
Cell
G3: Genes|Genomes|Genetics
Genome Research
Journal of Heredity
Molecular Biology and Evolution
Molecular Ecology
PLOS Genetics
Proceedings of the Royal Society B

**PROFESSIONAL
AFFILIATIONS** Genetics Society of America
Society for the Study of Evolution
Society for Molecular Biology and Evolution
Sigma Xi
Phi Beta Kappa

**COMMITTEES
& SERVICE** Fall 2015-Spring 2016: Committee on the Undergraduate Curriculum
Fall 2014-Spring 2017: Committee on Libraries, Information, and Computing
Fall 2013-Present: Athena Cluster Steering Committee
May 2018: Faculty Marshal, Commencement (also 2015-2016)
Spring 2018: STEM Academic Panel for admitted students and parents (2)
November 2017: Goldwater Fellowship Committee (internal)
Spring 2016: BMC Biology search committee, Interim Biostatistics Instructor
Fall 2014-Fall 2015: Biology Department Seminar Coordinator
Summer 2015: BMC Science Support Services search committee, Instrument
Specialist
Spring 2015: BMC Biology search committee, Interim Geneticist
Fall 2014: BMC Chemistry search committee, Laboratory Instructor
September 2014: Faculty Marshal, Presidential Inauguration
Fall 2013: BMC Biology search committee, Computational Ecologist