

CURRICULUM VITAE: SARAH SIGNOR

Assistant Professor
Department of Biological Sciences
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Fargo, North Dakota
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EDUCATION

- 2006-2013 Ph.D. in Population Biology, University of California, Davis
2001-2005 B.A. in Environmental Studies, Mount Holyoke College, MA.

RESEARCH EXPERIENCE

- 2019-present Assistant Professor, Department of Biological Sciences, North Dakota State University
Drosophila evolutionary genetics
- 2018-2019 Postdoctoral Research, Department of Integrative Biology, University of California, Berkeley
Evolution of sex-specific genomes.
Advisor: Doris Bachtrog
- 2013-2018 Postdoctoral Research, Molecular and Computational Biology, University of Southern California
Developmental and population genetics of complex traits in *Drosophila*.
Advisor: Sergey Nuzhdin
- 2006-2013 Doctoral Dissertation Research, Population Biology Graduate Group, University of California, Davis
Quantitative genetics and the evolution of species differences in *Drosophila*.
Advisor: Artyom Kopp
- 2005-2006 Junior Specialist, Evolution and Ecology, University of California, Davis
Maintenance of balanced polymorphisms in *Raphanus sativus*.
Advisor: Sharon Strauss
- 2004-2005 Senior Thesis Research, Biology Department, Mount Holyoke College.
Phylogenetic placement of enigmatic fossil invertebrates.
Advisor: Stan Rachootin

TEACHING AND LEADERSHIP EXPERIENCE

- 2015-2016 Co-Instructor, Animal Development, University of California
I have twice co-taught an advanced course on Animal Development with Sergey Nuzhdin.
- 2015 Guest Lecturer, Quantitative Genetics, University of Southern California
I have been a guest lecturer for the Quantitative Genetics section of the Genetics course.

- 2011 Co-founder, Big Read Open Access Science, University of California, Davis Center for Population Biology and the Yolo County library
I co-founded a program at UC Davis to promote interaction between the local community and scientists.
- 2009 Co-Chair, Non-model Genomics Workshop Organizing Committee UCD Center for Population Biology

RESEARCH FUNDING AND EXTRAMURAL SUPPORT

- 2019 EPSCoR Seed grant (NDSU) – Alcohol and Alternative proteins (10,000)
- 2014-2017 Provost's Postdoctoral Scholar Research Grants and Training and Travel Award (\$4,000 cumulative)
- 2013-2017 Undergraduate Research Apprentice Program, University of Southern California (\$45,000 cumulative)
- 2011 Doctoral Dissertation Improvement Grant (\$12,000)
- 2006-2013 Center for Population Biology Research Award (\$5,000 cumulative)
- 2008 NSF East Asia and Pacific Summer Institutes Grant (\$15,000)

PUBLICATIONS

peer-reviewed publications

Signor, S., and Nuzhdin, S. *in press*. Compensatory evolution of gene expression. *Trends in Genetics*.

Signor, S. *in review*. Transposable element copy number in individual genotypes of *Drosophila simulans*. *Journal of Evolutionary Biology*.

Signor, S. *in review*. Evolution of phenotypic plasticity in response to ethanol between sister species with different ecological histories (*Drosophila melanogaster* and *D. simulans*). *Proc. R. Soc. B.* <https://www.biorxiv.org/content/early/2018/08/07/386334>

Signor, S., Nuzhdin, S. 2018. Dynamic changes in gene expression and alternative splicing mediate the response to acute alcohol exposure. *Heredity*. 121(4):342-360.

Signor, S., Ali, S., Konstantin, K., Nuzhdin, S. 2019. Novel approach to quantitative spatial gene expression uncovers genetic stochasticity in the developing *Drosophila* eye. *Evolution and Development*. 21(3):157-171.

Signor, S., Nuzhdin, S. 2018. The evolution of gene expression in *cis* and *trans*. *Trends in Genetics*. 34(7): 532-544.

Signor, S., New, F., Nuzhdin, S. 2018. A large panel of *Drosophila simulans* reveals an abundance of common variants. *Genome Biology and Evolution*. 10 (1): 189-206

Signor, S., Abbasi, M., Marjoram, P., Nuzhdin, S. 2017. Conservation of social effects (Ψ) between two species of *Drosophila* despite reversal of sexual dimorphism. *Ecology and Evolution*. 7(23):10031-10041

Signor, S. 2017. Population genomics of *Wolbachia* and mtDNA in *Drosophila simulans* from California. *Scientific Reports*. 7:13369

Signor, S., Abbasi, M., Marjoram, P., Nuzhdin, S. (2017) Social effects for locomotion vary between environments in *Drosophila melanogaster* males and females. *Evolution*. 71(7):1765-1775.

Signor, S., Yang, L., Rebeiz, M., Kopp, A. (2016) Genetic convergence in the evolution of male specific color patterns in *Drosophila*. *Current Biology*. 26(18):2423-2433.

Signor, S., Arbeitman, M. Nuzhdin, S. (2016) Gene networks and developmental context: the importance of understanding complex gene expression patterns in evolution. *Evolution & Development*, 18(3): 201-209.

Signor, S., Ng, C.S., Podlaha, O., Seher, T., Kopp, A. (2013) Genomic resources for multiple species in the *Drosophila ananassae* species group. *Fly*. 7(1): 47-57.

Seher, T.D., Ng, C.S., **Signor, S.**, Podlaha, O., Barmina, O., Kopp, A. (2012) Genetic basis of a violation of Dollo's Law: re-evolution of rotating sex combs in *Drosophila*. *Genetics*. 194(4):1465-75.

non-peer reviewed publications

Signor, S. A. (2019) Mating Behavior: Structure meets function. *eLife*.

INVITED TALKS

2017 Signor, S. The evolution of genes and gene regulatory networks. Claremont McKenna, Claremont, CA.

2016 Signor, S. Pervasive incomplete sweeps in *Drosophila simulans* account for excess genetic variation, Stanford University, Stanford, CA.

2014 Signor, S. Automatic tracking of complex *Drosophila* behaviors. Center for Excellence in Genomic Science (CEGS) meeting, Boston, MA.

PRESENTATIONS AT PROFESSIONAL MEETINGS

2019 Evolutionary Genomics Research Conference, Lincoln, Nebraska. Oral presentation: Evolution of plasticity in response to ethanol between sister species with different ecological histories (*Drosophila melanogaster* and *D. simulans*)

- 2018 *Drosophila* Research Conference, Philadelphia, PA. Oral presentation: Genetic stochasticity and robustness in the developing *Drosophila* eye.
- 2017 Gordon Conference on Quantitative Genetics and Genomics, Galveston, Texas. Oral presentation: Comparative evolution in *Drosophila* pigmentation
- 2016 The Allied Genetics Conference, Orlando, Florida. Oral presentation: Missing variation uncovered using deep sequencing of a population of *D. simulans*
- 2016 Society for the Study of Evolution, Austin, Texas. Oral presentation: Missing variation uncovered using deep sequencing of a population of *D. simulans*
- 2015 Society for Molecular Biology & Evolution, Vienna, Austria. Oral presentation: Comparative evolution in *Drosophila* pigmentation
- 2015 *Drosophila* Research Conference, Chicago, IL. Poster presentations: Sexually dimorphic pigmentation in *Drosophila*: the genetics of convergent evolution, Complex social behavior in *Drosophila*: ethanol and natural genetic variation in courtship and aggression.
- 2014 Society for Molecular Biology & Evolution, San Juan Puerto Rico. Oral presentation: The genetics of convergent evolution.
- 2014 *Drosophila* Research Conference, San Diego California. Poster presentation: The genetics of convergent evolution.
- 2014 American Society of Naturalists, Asilomar, California. Oral presentation: The genetics of convergent evolution.
- 2012 Meeting of the Society for the Study of Evolution, Ottawa, Canada. Oral presentation: Convergent evolution of sexually dimorphic pigmentation through changes in both shared and unique genes in *Drosophila*.
- 2012 *Drosophila* Research Conference, Chicago, Illinois. Poster presentation: Comparative analysis of sex-specific pigmentation identifies a novel gene involved in phenotypic evolution.
- 2011 *Drosophila* Research Conference, San Diego, CA. Poster presentation.