

## BIOGRAPHICAL SKETCH – J.L. KELLEY

### Current Position and Address

Associate Professor, School of Biological Sciences, Washington State University, PO Box 644236, Pullman WA 99164, phone: 509-335-0037, email: joanna.l.kelley@wsu.edu

### Professional Preparation

Brown University, Providence RI	Mathematics & Biology	B.A. magna cum laude, 2003
University of Washington, Seattle, WA	Genome Sciences	Ph.D., 2008
University of Chicago, Chicago, IL	Human Genetics	Postdoctoral, 2008-2010
Stanford University, Stanford, CA	Genetics	Postdoctoral, 2010-2013

### Appointments

Washington State University	School of Biological Sciences, Associate Professor	2018-present
	School of Biological Sciences, Assistant Professor	2013-2018
	Molecular Biosciences, Affiliate Faculty	2013-present

### Products

(i) *Five publications closely related to the proposed project (underline indicates Kelley lab trainee):*

Brown, A.P., Arias-Rodriguez, L., Yee, M.C, Tobler, M., **Kelley, J.L.** (2018) Concordant changes in gene expression and nucleotides underlie independent adaptation to extremely sulfidic environments. *Genome Biology and Evolution*. doi.org/10.1093/gbe/evy198

Hotaling, S., Quackenbush, C.R., Bennett Ponsford, J., New, D.D., Tobler, M., **Kelley, J.L.** (2018) Bacterial diversity in replicated hydrogen sulfide-rich springs. *Microbial Ecology*. doi.org/10.1007/s00248-018-1237-6.

Brown, A.P., Greenway, R., Morgan, S., Quackenbush, C.R., Giordani, L., Arias Rodriguez, L., Tobler, M., **Kelley, J.L.** (2017) Genome-scale data reveals that endemic *Poecilia* populations from small sulfidic springs display no evidence of inbreeding. *Molecular Ecology*. 26: 4920-4934.

**Kelley, J.L.**, Passow, C.N., Arias Rodriguez, L., Patacsil Martin, D., Yee, M.C., Bustamante, C.D., Tobler, M. (2016) Mechanisms underlying adaptation to life in hydrogen sulfide rich environments. *Molecular Biology and Evolution*. 33 (6): 1639-1640.

**Kelley, J.L.**, Brown, A.P., Overgaard Therkildsen, N., Foote, A. (2016) The life aquatic: advances in marine vertebrate genomics. *Nature Reviews Genetics*. 17: 523-534.

(ii) *Five additional significant publications:*

Lins, L.S.F., Trojahn, S., Sockell, A., Yee, M-C, Tatarenkov, A., Bustamante, C.D., Earley, R.L., **Kelley, J.L.** (2018) Whole-genome sequencing reveals the extent of heterozygosity in a preferentially self-fertilizing hermaphroditic vertebrate *Genome*. 61: 241-247.

Passow, C.N., Brown, A.P., Arias-Rodriguez, L., Yee, M.-C., Sockell, A., Scharl, M., Warren, W.C., Bustamante, C., **Kelley, J.L.\***, Tobler, M\*. (2017) Complexities of gene expression patterns in natural populations of an extremophile fish (*Poecilia mexicana*, Poeciliidae) *Molecular Ecology*. 26: 4211-4225. \*co-supervised research

**Kelley, J.L.**, Yee, M.C., Brown, A.P., Richardson, R., Taternkov, A., Lee, C., Harkins, T., Bustamante, C.D., Earley, R.L. (2016) The genome of the self-fertilizing mangrove rivulus fish, *Kryptolebias*

*marmoratus*: a model for studying phenotypic plasticity and adaptations to extreme environments. *Genome Biology and Evolution*. 8 (7): 2145-2154.

Hoban, S.\*, **Kelley, J.L.\*†**, Lotterhos, K.E.\*, Antolin, M.F., Bradburd, G., Lowry, D.B., Poss, M.L., Reed, L.K., Storfer, A., Whitlock, M.C. (2016) Finding the genetic basis of local adaptation in non-model organisms: pitfalls, practical solutions and future directions. *American Naturalist*. 188:379-397  
\*Contributed equally. †Corresponding author.

**Kelley, J.L.**, Peyton, J.T., Fiston-Lavier, A.-S., Teets N.M., Yee M.C., Bustamante, C.D., Lee, R.E. and D.L. Denlinger. (2014) Compact genome of the Antarctic midge is likely an adaptation to an extreme environment. *Nature Communications*. 5:4611.

### Synergistic Activities

#### *Broadening the Participation of Underrepresented Groups*

I promote women in science by serving as faculty advisor for undergraduate women in science *Scientista* chapter at Washington State University, which is a national organization to support female STEM majors.

#### *Innovations in Teaching*

As an active participant in National Science Foundation (NSF) Faculty Institute for Reforming Science Teaching (FIRST) IV Fellow, a program to improve professional development in teaching starting with postdoctoral researchers I have designed and developed active learning curricula including several teaching modules for Introductory Biology course and Ancestry, Genetics and Medicine, an undergraduate, non-majors course. I designed curriculum for Genome Biology course at Washington State University and am continually updating the curriculum. All are disseminated on my laboratory website.

#### *Outreach*

To broaden STEM access I am developing curriculum for middle school students in collaboration with Ms. Abra Pitters for the Sweetwater High School District Montgomery Middle School, our work is supported by a small grant from L'Oreal/AAAS. We are creating curriculum around active research in the laboratory and creating videos of scientists to make STEM disciplines more accessible to students in low-income schools at a time (middle school) when attrition is high.