

## EDUCATION AND RESEARCH

**Postdoctoral Fellowship** (June 2016-present), *University of Washington*, with Christine Queitsch.

**Project 1:** Highly accurate short tandem repeat genotyping reveals expands heritable variation and reveals signatures of selection

**Project 2:** What is additive genetic variation?

**PhD in Genome Sciences** (June 2016), *University of Washington*, with Christine Queitsch and Elhanan Borenstein.

**Thesis:** "Observing the effects of epistasis on various scales of the evolutionary process."

**Project 1:** Co-evolutionary analysis of bacterial Hsp90 function.

**Project 2:** Epistatic genetic architecture induced by ELF3 polyQ variation.

**Project 3:** Evolutionary assembly rules of prokaryotic genomes.

**Project 4:** Short tandem repeat variation's role in genetic architecture.

**Project 5:** The role of ELF3 polyQ variation in *A. thaliana* temperature sensing.

**BA Biology** (2008), *Reed College*. Undergraduate study with Robert Kaplan.

**Thesis:** "Microevolution of *Gasterosteus aculeatus* in the Johnson Creek watershed."

## PUBLICATIONS

(all available upon request; see [Pubmed](#), [bioRxiv](#), [Google scholar](#))

- **Press MO**, Queitsch C. "The variable ELF3 polyglutamine mediates complex epistatic interactions." ([bioRxiv](#)), *in revision*.
- **Press MO**, Lanctot A, Queitsch C (2016). *PLOS ONE* 11(8): e0161791.
- **Press MO**, Queitsch C, Borenstein E (2016). *Genome Research* 26: 826-833.
- Carlson KD, Sudmant PH, **Press MO**, Eichler EE, Shendure J, Queitsch C (2015). *Genome Research* 25(5):750-761.
- Rival P\*, **Press MO**\*, Bale J\*, Grancharova T, Undurraga SF, Queitsch C (2014). *Genetics* 198(2): 747-754.
- **Press MO**, Carlson KD, Queitsch C (2014). *Trends in Genetics* 30(11) 504-512.
- **Press MO**\*, Li H\*, Creanza N, Kramer G, Queitsch C, Sourjik V, Borenstein E (2013). *PLOS Genetics* 9(8): e1003631
- Undurraga S, **Press MO**, Legendre M, Bujdoso N, Bale J, Hui W, Davis SJ, Verstrepen K, Queitsch C (2012). *PNAS* 109(47):19363-7.
- Ranjitkar P, **Press MO**, Yi X, Baker R, MacCoss MJ, Biggins S (2010). *Molecular Cell* 40(3): 455-64.

\*: equal contribution

## SELECTED PRESENTATIONS

- Talk: Thermomorphogenesis Meeting 2016: "PIF4 and ELF3 Act Independently in *Arabidopsis thaliana* Thermo-responsive Flowering". Halle, Germany
- Talk: The Allied Genetics Conference, July 2016: "The variable ELF3 polyglutamine is

an epistatic hub.” Orlando, FL

- Talk: Congress of the Society for Molecular Biology and Evolution, July 2015: “Evolutionary Assembly Patterns of Prokaryotic Genomes.” Vienna, Austria
- Poster: Gordon Research Conference, June-July 2015: “The variable ELF3 polyglutamine hubs an epistatic network.” Easton, MA
- Talk: 6<sup>th</sup> International Conference on the Hsp90 chaperone machine, September 2012: “Evolutionary Inference of bacterial Hsp90 functions.” Les Diablerets, Switzerland

## FELLOWSHIPS AND AWARDS

- 2015: UW Graduate School Fund for Excellence and Innovation Travel Grant
- 2011-2013: NIH NHGRI Genomics Training Grant 2T32HG35-16
- 2008: Phi Beta Kappa (Reed College)
- 2007-8: Miller Undergraduate Research Foundation grant, Reed College
- 2004-8: 3 Commendations for Excellence in Scholarship, Reed College

## PROFESSIONAL EXPERIENCE

**Postdoctoral fellow**, University of Washington, Department of Genome Sciences, June 2016-present. Supervisor: Dr. Christine Queitsch.

- Optimized sequencing assays for genotyping short tandem repeats (STRs).
- Optimized software pipelines for high-throughput sequencing
- Performed functional and evolutionary analysis of natural STR variation in *A. thaliana*.

**Graduate Research Assistant**, University of Washington, Department of Genome Sciences, 2010-June 2016. Advisors: Dr. Christine Queitsch, Dr. Elhanan Borenstein

- Developed and applied computational methods for studying bacterial genome evolution
- Developed and applied genetic analysis methods for *Arabidopsis thaliana*
- Mentored, trained, and supervised junior students, volunteers, and undergraduates
- Wrote several papers published in leading journals
- Wrote training and large (R01) grants for submission to NIH and NSF
- Presented research at international meetings

**Research Technician**, Fred Hutchinson Cancer Research Center, Basic Sciences Division, 2008-2010. Supervisor: Dr. Sue Biggins

- Constructed yeast strains via cloning, crossing, and transformation
- Characterized protein function with biochemical, genetic, and cell biology techniques
- Managed laboratory stocks, supervised lab helpers, acted as radiation safety coordinator

**REU**, Oregon State University Eco-Informatics Summer Institute. Summer 2007

- Collected, analyzed, and presented Douglas-fir dendrochronological data.

**Biology Tutor**, Reed College. August 2005-May 2008

- Tutored undergraduates in introductory biology, assisted in laboratory sections

## TEACHING AND MENTORING

### University of Washington

- **Teaching assistant** (GENOME 351: Human Genetics for non-majors), UW. Spring 2014
- **Teaching assistant** (GENOME 371: Introductory Genetics), UW. Fall 2012
- **Research mentor**, I was the direct supervisor for three members of the Queitsch lab:

Katie Uckele (volunteer, 2014-2015), Amy Lanctot (rotation student, Spring 2015), Ashley Roarty (rotation student, Winter 2016).

**Reed College**

- **Tutor** (Biology 101/102: Introductory Biology), 2005-2008

**PEER REVIEW:**

- **Reviewer:** *Nature Communications, Matters.*
- **Sub-reviewer for C. Queitsch:** *PNAS, American Journal of Primatology, Human Genetics, PLOS Genetics.*
- **Sub-reviewer for E. Borenstein:** *RECOMB 2012, Scientific Reports.*

**SCHOLARLY SOCIETY MEMBERSHIPS**

Society for Molecular Biology and Evolution. (2015-present)

Genetics Society of America. (2016-present)

**SERVICE AND OUTREACH ACTIVITIES**

- **Co-instructor**, GRE preparation course. July 2014, July 2015, (short class for underrepresented minority undergraduates).
- **Organizer**, 2012 NHGRI UW Genome Training Grant Symposium.
- **Instructor**, Basic ideas of bioinformatics, June 2012, (short class for HS teachers).
- **Departmental coordinator**, 2012 Science Education Partnership, Genome Sciences.
- **Science blogging**, 2013-present, <http://swamptingscience.com/> (sparsely updated; life sciences in terms of comics, occasional digressions against scientism).
- **Restoration volunteer**, Adopt-a-Stream Foundation, (Summer-Winter 2005). Wetlands restoration field work.
- **Volunteer**, Students for Empowering, Educating, Diversity and Service (SEEDS), Reed College chapter (2004-2008). Taught middle school students about wetland restoration.

**REFERENCES**

- **Dr. Christine Queitsch, University of Washington Dept. Genome Sciences.**  
[queitsch@uw.edu](mailto:queitsch@uw.edu)
- **Dr. Elhanan Borenstein, University of Washington Dept. Genome Sciences.**  
[elbo@uw.edu](mailto:elbo@uw.edu)
- **Dr. Sue Biggins, Fred Hutchinson Cancer Research Center Basic Sciences Division.**  
[sbiggins@fhcrc.org](mailto:sbiggins@fhcrc.org)