TARA FURSTENAU

Biodesign Institute
Center for Evolutionary Medicine and Informatics
Arizona State University
Tempe, Arizona

PERSONAL INFORMATION

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EDUCATION

2010- Arizona State University, Tempe

Ph.D. Expected 2015 · Molecular and Cellular Biology · School of Life Sciences
Thesis: *Evolution of Self-Incompatibility in Plant Populations*
Advisor: Prof. Reed Cartwright

2008-2010 Arizona State University, Tempe

B.S Bioinformatics and Genomics · School of Life Sciences
Magnum Cum Laude · *Dean's List*

RESEARCH EXPERIENCE

2013- Graduate Research
Prof. Reed Cartwright
Developed simulations to investigate the evolution of self-incompatibility systems in plant populations

2010-2013 Graduate Research Assistant
Prof. Roberto Gaxiola
Investigated the role of the proton pumping pyrophosphatase, *AVP1*, in sucrose transport in *Arabidopsis thaliana*

2009-2010 Undergraduate Student Researcher
Prof. Lei Lei

PUBLICATIONS

Submitted **Furstenau, T.N.**, and R.A. Cartwright. The effect of the dispersal kernel on isolation-by-distance in a continuous population.

February 2015 GA Pizzio, J Paez-Valencia, AS. Khadilkar , K Regmi, A Patron-Soberano, S Zhang, J Sanchez-Lares, **T Furstenau**, J Li, C Sanchez-Gomez, P Valencia-Mayoral, UP Yadav, BG Ayre and RA Gaxiola (2015). *Arabidopsis* proton-pumping pyrophosphatase *AVP1* expresses strongly in phloem where it is required for PPi metabolism and photosynthate partitioning. *Plant Physiology*

PRESENTATIONS

March 2012 Molecular and Cellular Biology Colloquium · Arizona State University
Title: *Is the H^+-pyrophosphatase involved in the regulation of sucrose transport in plants?"*

October 2013 Molecular and Cellular Biology Colloquium · Arizona State University
Title: *Evolution of Self-Incompatibility: Investigating the role of self-incompatibility systems in the prevention of biparental inbreeding*

September 2014 Molecular and Cellular Biology Colloquim · The Biodesign Institute
Title: *Evolution of Self-Incompatibility: Investigating the role of self-incompatibility systems in the prevention of biparental inbreeding*

POSTERS AND ABSTRACTS

May 2012 Childrens Nutritional Research Center · Houston, TX
Meeting Abstract: *H^+-PPase AVP1 is necessary for phloem development in Arabidopsis*

July 2012 Annual Meeting of the American Society of Plant Biologists · Austin, TX
Poster Title: *H^+-PPase AVP1 is necessary for phloem development in Arabidopsis thaliana*

August 2012 Molecular and Cellular Biology Graduate Student Retreat · Tempe, AZ
Poster

April 2014 Undergraduate Research Poster Symposium · Tempe, AZ
Poster Title: *Characterization of Transgenic Arabidopsis thaliana overexpressing AVP1 and PLAFP*
Presented by Sean Wilson (undergraduate mentee)

April 2014 Evolution 2014 · Raleigh, NC
Poster Title: *The effect of the dispersal distribution on isolation by distance in a continuous population*

TEACHING EXPERIENCE

Fall 2010 — MBB 343 · Genetic Engineering and Society · Laboratory
Teaching Associate · Arizona State University

Spring 2011 — BIO 181 · General Biology I · Laboratory
Teaching Associate · Arizona State University

Summer 2011 — BIO 182 · General Biology II · Laboratory
Teaching Associate · Arizona State University

Fall 2011-Spring 2013 — BIO 340 · General Genetics · Recitation
Teaching Associate · Arizona State University

Fall 2013 — PLB 108 · Concepts in Plant Biology · iCourse
Instructor · Arizona State University
**Developed course materials and produced instructional videos*

Spring 2014 — MBB 355 · Introduction to Computational Molecular Biology · Lecture
Innovative Teaching Associate · Arizona State University

Fall 2014 — BIO 340 · General Genetics · Active Learning Recitation
Head Teaching Associate · Arizona State University

Honors Thesis Mentor — Sean Wilson
Thesis: Wilson, S., **Furstenau, T.**, and R. Gaxiola. Characterization of Transgenic *Arabidopsis thaliana* Overexpressing a Type I H^+ Pyrophosphatase and the Phloem Lipid-Associated Family Protein.
http://hdl.handle.net/2286/R.I.23607
Currently a graduate student at Harvard University

Undergraduate Research Mentor — Matthew Hilton (*currently a graduate student at Arizona State University*) · Rachel Livingston · Denise Godinez · Kate Graen · Diana Arroyo

SERVICE

Phosphorus Sustainability Research Coordination Network · Core Participant

Ask a Biologist · Correspondent

Green Labs Initiative · Coordinator/Spokesperson

Obama Scholars · Mentor

PROFESSIONAL ORGANIZATIONS

American Association for the Advancement of Science

American Society of Plant Biologists

Society for the Study of Evolution

Society for Molecular Biology and Evolution

Graduate Integrative Society for Environment Interdisciplinary Research

Central Arizona Chapter of the Association for Women in Science

PROFESSIONAL DEVELOPMENT

Univector Plasmid-Fusion System training with Kendal Hirschi
Childrens Nutritional Research Center · Baylor College of Medicine · Houston, TX

Next Generation Population Genomics for Nonmodel Taxa Workshop
American Genetics Association · Cornell University · Ithica, NY

PROGRAMMING LANGUAGES

C++, python, R, bash, LaTeX, html/css, OpenBUGS, Mathematica

February 13, 2015