

Melissa A. Wilson Sayres

Assistant Professor, Arizona State University
462 Life Sciences Building C, Tempe, Arizona 85281
Phone: (480) 727-6366, Email: melissa.wilsonsayres@asu.edu

FACULTY APPOINTMENTS

Assistant Professor of Genomics, Evolution, and Bioinformatics, August 2014-present
School of Life Sciences, Arizona State University, Tempe, AZ, USA
Barrett, The Honors College, Honors Faculty

Assistant Professor, Center for Evolution and Medicine, August 2014-present
The Biodesign Institute, Arizona State University, Tempe, AZ, USA

Adjunct Assistant Professor, Neurogenomics Division, August 2014-present
Translational Genomics Research Institute (TGen), Phoenix, Arizona 85004

EDUCATION AND TRAINING

Miller Postdoctoral Fellow, July 2011-July 2014
University of California, Berkeley
Advisor: Dr. Rasmus Nielsen

Ph. D. Integrative Biosciences, Bioinformatics and Genomics, NSF graduate research fellow, August 2011
The Pennsylvania State University
Primary Advisor: Dr. Kateryna Makova; Co-advisors: Dr. Stephen Schaeffer and Dr. Webb Miller

B.S., Medical Mathematics, with Honors, Recipient of Outstanding Mathematician Award, May 2005
Creighton University
Advisor: Dr. Lance Nielsen

RESEARCH INTERESTS

I am an evolutionary and computational biologist, broadly interested in questions of genome evolution, mutation rate variation, and the consequences of population history. I use high performance computing, statistics, simulations, and comparative genomics to study questions relating to sex-biased mutational processes including, how sex chromosomes arise and evolve, why mutation rates differ between males and females, and how expression patterns vary between the sexes. Our lab develops models and analyzes experimental data to understand the effects of natural selection, convergent evolution, tumor progression and maternal-fetal conflict.

PUBLICATIONS

Published Research Articles

11. Poznik GD, Xue Y, Mendez F, Willems T, Massaia A, **Wilson Sayres M**, *et al.* (37 others). 2016. Punctuated bursts in human male demography inferred from 1,244 worldwide Y-chromosome sequences. (*in revision*) *Nature Genetics*.
10. 1000 Genomes Consortium. 2015. A global reference for human genetic variation. 2015. *Nature* 526: 68-74.
9. Karmin M*, Saag L*, Vicente M*, **Wilson Sayres M***, *et. al* (95 others). 2015. A recent bottleneck of Y chromosome diversity coincides with a global change in culture. *Genome Research* **25**(4): 459-466.
8. **Wilson Sayres MA**, Lohmueller KE and Nielsen R. 2014. Natural selection reduced diversity on human Y chromosomes. *PLoS Genetics* 10(1): e1004064.

7. Tsai Paulina[#] and **Wilson Sayres MA**. 2013. Evolution of the phosphatase gene family across nematode worms and flies. *Berkeley Scientific Journal* 18(1): 87-93.
6. Pandey R^{#*}, **Wilson Sayres MA*** and Azad R. 2013. Detecting evolutionary strata on the human X chromosome in the absence of gametologous Y-linked sequences. *Genome Biology and Evolution* 5(10): 1863-1871.
5. Somel M, **Wilson Sayres MA**, Jordan G, Huerta-Sanchez E, Fumagalli M, Ferrer-Admetlla A, and Nielsen R. 2013. A scan for human-specific relaxation of negative selection reveals unexpected polymorphism in the proteasome. *Molecular Biology and Evolution* 30(8): 1808-1815.
4. **Wilson Sayres MA***. 2013. Timing of ancient human Y lineage depends on mutation rate: a comment on Mendez et al. *arXiv*. 1304.6098.
3. **Wilson Sayres MA** and Makova KD. 2013. Gene survival and death on the human Y chromosome. *Molecular Biology and Evolution* 30(3): 781-7.
2. **Wilson Sayres MA**, Venditti C, Pagel M, and Makova KD. 2011. Do variations in substitution rates and male mutation bias correlate with life-history traits? A study of 32 mammalian genomes. *Evolution* 65(10): 2800-15.
1. **Wilson MA**, and Makova, KD. 2009. Evolution and survival on eutherian sex chromosomes. *PLoS Genetics* 5(7): e1000568.

Review Articles, Abstracts, and Chapters (8 total: 6 first authorships; 7 corresponding authorships)

8. **Wilson Sayres MA**. 2016. Pseudoautosomal Linkage, Region, Reference Module in Life Sciences (*invited*).
7. Boddy A, Fortunato A, **Wilson Sayres M** and Aktipis A. 2015. Cooperation and conflict beyond the womb: The paradoxical effects of fetal microchimerism on maternal health. *BioEssays* 37(10): 1106-1118.
6. **Wilson Sayres MA**. 2015. "Evolution, Trends in." *Discoveries in Modern Science: Exploration, Invention, Technology*. Ed. James Trefil. Vol. 1. Farmington Hills, MI: Macmillan Reference USA. 330-333.
5. **Wilson Sayres MA**. 2013. Pseudoautosomal Linkage, Region, In: Brenner's Encyclopedia of Genetics (Second Edition). Elsevier: 514-516.
4. Skotte L, **Wilson Sayres MA**, and Nielsen R. 2013. Exploring allele specific expression from RNA-Seq data using a logistic mixed effects regression. *Human Heredity*: 76 (2) 93.
3. **Wilson Sayres MA**, Brooks AJ, Chanock SJ, Cheung V, Goldstein DB, Jin L, and Kwok P-Y. 2012. HGVS2011: Personalized genomic medicine meets the incidentalome. *Human Mutation* 33(3): 582-5.
2. **Wilson Sayres MA**, and Makova KD. 2011. Genome analyses substantiate male mutation bias in many species. *BioEssays* 33(12): 938-45.
1. **Wilson MA**, and Makova, KD. 2009. Genomic analyses of sex chromosome evolution. *Annual Reviews of Human Genetics and Genomics* 10: 333-54.

RESEARCH SUPPORT

Active	Duration	Amount	Status
<i>Individual (2):</i>			
2. Center for Evolution and Medicine Special Event Award "Molecular Evolution of Sex" PI: Wilson Sayres	Oct 2016	\$15K	<i>current</i>
1. American Genetics Association Special Event Award "Molecular Evolution of Sex" PI: Wilson Sayres	Oct 2016	\$15K	<i>current</i>

Collaborative (3):

3. Flinn Foundation Jan 2016 – Dec 2016 \$100K *current*
“Melanoma Transformative Medical Alliance”
Co-I: Sekulic; Co-I: Hendricks; Co-I: **Wilson Sayres**; Co-I: Maley

2. ASU IHO Aug 2015 – July 2016 \$100k *current*
“DNA and human origins at ASU”
PI: Stone; Co-I: Gilby; Co-I: Rosenberg; Co-I: **Wilson Sayres**; Co-I: Cartwright

1. NSF DBI 1446483 (BEACON) Aug 2015 – July 2016 \$48,294 *current*
“Assessing human-specific evolutionary pressures on genes involved in early puberty”
The goals of the project are to develop trainee skills in programming skills including Unix, R, perl and python, and to investigate molecular relics of early puberty development in the human genome.
PI: Mead; Co-PI: **Wilson Sayres**

Trainee (1):

1. NIH IMSD Jan 2016 – Aug 2016 NA *current*
Initiative for Maximizing Student Development
PI: **Wilson Sayres**; Trainee: Valeria Valverde-Vesling

Completed **Duration** **Amount** **Status**

Individual (2):

2. Miller Institute for Basic Research in Science Postdoctoral Fellowship July 2011 – June 2014 \$225,150 *completed*
PI: **Wilson Sayres**

1. NSF Graduate Research Fellowship July 2011 – June 2014 \$90,000 *completed*
PI: **Wilson Sayres**

Collaborative (1):

1. Outreach Thematic Initiative Fund July 2009 – June 2010 \$10,000 *completed*
“Public Service Announcements Promoting Careers in Science and Mathematics.”
PI: Nathaniel Brown, co-PI: **Melissa Wilson**, Barbara Houtz, Babs L Bengtson, Elizabeth Hutton, rural Multi-District Academic Space Alliance

Trainee (4):

4. ASU College of Liberal Arts and Sciences Undergraduate Summer Enrichment July 2015 – Aug 2015 \$2726.39 *completed*
“Using patterns of diversity to measure boundaries of the pseudoautosomal regions on the human sex chromosomes.”
PI: **Wilson Sayres**, Trainee: Sarah Brotman

3. MF15-UMR02 (Mindlin Foundation) May 2015 – Aug 2015 \$2500 *completed*
“Characterizing Sex-Biased Gene Expression in the Green Anole”
PI: **Wilson Sayres**, Trainee: Shawn Rupp

2. MF15-UMR03 (Mindlin Foundation) May 2015 – Aug 2015 \$2500 *completed*
“Patterns of evolution across vertebrate sex determining genes”
PI: **Wilson Sayres**; Trainee: Hien Vu

1. Bidstrup Foundation Dec 2014 – May 2015 \$2000 *completed*
Bidstrup Undergraduate Fellowship
PI: **Wilson Sayres**; Trainee: Kara Schaffer

HONORS & AWARDS

- 2015 *Nominee* Zebulon Pearce Distinguished Teaching Award, Arizona State University
- 2012 ASHG/Charles J. Epstein Trainee Award for Excellence in Human Genetics Research-Semifinalist
- 2010 Mohnkern Scholarship, The Pennsylvania State University
- 2010 Evolution 2010 Conference Travel Fellowship
- 2010 Second Place Award, Grad Exhibition Poster Competition, Pennsylvania State University
- 2010 Braddock Homer Research Award, The Pennsylvania State University
- 2010 First Place Award, Genome Research poster competition at CSH: The Biology of Genomes
- 2010 Institute of Molecular Evolutionary Genetics, Competitive Travel Grant
- 2010 Women In the Sciences and Engineering, Travel Grant (\$250 each year)
- 2009 Sex & Recombination: In Theory and Practice Conference, Competitive Travel Fellowship
- 2009 Selected participant, NIH Graduate Student Research Festival
- 2008 Women In Science and Engineering Outstanding Service Award
- 2008 Selected participant, Munich Graduate Program EES Summer School: Evolution of Sex Chromosomes
- 2007 J. Ben and Helen D. Hill Memorial Award, The Pennsylvania State University
- 2006 The Pennsylvania State University NSF GRFP Incentive Award
- 2005 Graham Endowed Fellowship: University-wide recognition of highly recruited students
- 2005 Huck Institute of the Life Sciences Fellowship
- 2005 Huck Institute of the Life Sciences Supplemental Award: For academic excellence
- 2005 Creighton University Outstanding Mathematician Award: One award per academic year

PROFESSIONAL SERVICE

National/International

- 2016 Conference organizer, "Molecular Evolution of Sex", Tempe, AZ, USA, October
- 2016 Symposium co-organizer and moderator, "Primate evolutionary history and comparative genomics", at the joint meeting of the International Primatological Society and the American Society of Primatologists in Chicago, IL, USA, August
- 2015 Symposium co-organizer and moderator, "Genomics of sex bias: Addressing questions with or without genomes", at SMBE 2015 in Vienna, Austria, July
- 2014 Symposium co-organizer and moderator, "The X-factor of Complex Disease: From Evolution to Association Studies of the X chromosomes", at ASHG 2014 in San Diego, CA, October
- 2014 Symposium co-organizer, "Mutation: The ultimate source of molecular variation", at SMBE 2014 in San Juan, Puerto Rico, June
- 2013 Session moderator, "Which comes first: The Sequence or the Biology", at ASHG 2013 meeting, in Boston, MA, USA, June
- 2013 Organizer, Bay Area Population Genomics (BAPG) IX Conference organizer, Berkeley, CA, USA
- 2012-2013 2013 Miller Symposium Planning Committee member, Tomales Bay, CA, USA, July
- 2012 Session moderator, "Population Genetics Genome-Wide", at ASHG 2012 meeting, San Francisco, CA, USA November
- 2012 Symposium Co-organizer, "Sex chromosome evolution illuminated by next-generation sequencing technology", at SMBE 2012 in Dublin, Ireland, June
- 2011-2012 2012 Miller Symposium Planning Committee member
- 2006 Session moderator at Evolution 2006

Arizona State University: College of Liberal Arts and Sciences

- 2015-2016 Faculty Research Computing Working Group
- 2015 Funding success skills series: Professors and Proposals @ 1, 5 and 10 years panelist
- 2014-2015 Biocomputing Advisory Committee

Arizona State University: School of Life Sciences (SOLS)

- 2015-2017 SOLS Seminar Organizer
- 2015-2016 Evolutionary Biology Graduate Program Steering Committee
- 2015 Barrett Honors Event for SOLS student, faculty participant
- 2015 SOLS Spark program participant (welcome to incoming SOLS majors)
- 2015 SOLS New Student Orientation Lunch participant: May 29, June 11, June 15, July 1
- 2015 BioBridge (Head start program for Biology majors) guest lecturer
- 2014 Barrett Honors Event for SOLS student, faculty participant
- 2014-2015 Curriculum Reform Committee

Computational Biology and Bioinformatics Education/Training

- 2016 Intro to the command line, one hour workshop (15 participants), January
- 2016 Full day Galaxy (bio-computing) Workshop organizer, sponsored by Biodiversity Knowledge Integration Center (48 participants), January
- 2016 Full day Intensive Python Bootcamp organizer (15 trainees), January
- 2015-2016 *(NSF-funded)* **Network for Integrating Bioinformatics into Life Sciences Education (NIBLSE) Research Coordination Network (RCN) Core Competencies Working Group Member.** Invited member of the Core Competencies working group to develop a standardized set of training goals for undergraduate education in bioinformatics.
- 2014 *(NSF-funded)* **Network for Integrating Bioinformatics into Life Sciences Education (NIBLSE) Research Coordination Network (RCN) participant.** Invited participant in workshop to advance and develop a standardized set of training goals for undergraduate education in bioinformatics: [Award 1346559](#). Omaha, Nebraska, April 2015.

Other Service

- 2010 Penn State Bioinformatics and Genomics Option Retreat Co-chair
- 2009 Penn State Equal Opportunity Planning Committee Review Team Member
- 2006-2007 Penn State Framework to Foster Diversity Mid-Term Review Committee Member

TEACHING AT ARIZONA STATE UNIVERSITY

Courses Developed/Primary Instructor

Decoding Sex (BIO 494/BIO 598): (3 credits, undergraduate/graduate elective) Fall 2015
This course covers the evolution of sex determination mechanisms across plants and animals. We will ask how separate sexes evolved, study the range of sex determination mechanisms, investigate why some species have only two sexes (and why some have more!), learn about the effects of sexual selection, and delve into the unique features of genetic sex determination. We will cover modern sequencing technology and its uses for studying sex chromosome divergence and diversity, including introduction to command line programming. Finally, we will discuss common misunderstandings about biological sex, gender identity, and sexual orientation. The course is discussion-based, evaluations throughout the semester include presentations and extensions of course material, and essays, all of which are evaluated by the instructor, and by peers.

Life Sciences Career Paths Recitation (BIO 189): (5 lectures, required for majors) Fall 2015
Topic: Sex, evolution, and relevance for human health
Freshmen School of Life Sciences students participate in an overview of the opportunities for and complexities of biological research including comparative genomics, evolution, and sex-biased health processes.

Evolution (BIO 345): (3 credits, required for majors) Spring 2015
This course is designed to introduce students to the concepts of evolutionary theory including phylogenetic analysis, adaptive and non-adaptive evolution, population genetics, and modern human evolution. There are two lectures per week, and a series of recitations where students are broken into smaller groups to work on problem solving and critical thinking.

Guest Lectures

Advanced Molecular and Cellular Biology II (MCB 556): Guest Lecture1 (1) – “Plant and animal sex chromosome evolution.” Apr 2016

Research Topics in Evolution (EVO 610): Guest Lecture1 (1) – “Evolution of sex determination mechanisms.” Feb 2016

Life Sciences Career Paths (BIO 189): Guest Lectures (2) – “Disciplines in the life sciences, career paths, courses and research opportunities: learn to code.” Oct 2015

NSF GRF Writing Course (BIO 598): Guest Lecture (1) – “Evaluating NSF graduate fellowships”
September 2015

Principles of Evolution (EVO 601): Guest Lecture (1) – “Genomics of sex determination” Oct 2014

Organic Evolution (BIO 345): Guest Lecture (1) – “Hominid evolution, continuing evolution in modern humans, and medical relevance” Oct 2014

Human Genetics (ASM/BIO 546): Guest Lecture (1) – “Adaptive Evolution” Nov 2014

Research Courses

Reading and Conference (BIO 590)

Supervised reading and research in biology.

Student: **Shawn Rupp** Topic: RNAseq analysis. Summer 2015

Undergraduate Research (MIC/MBB/BIO 495) (1-3 credits)

Supervised research in biology/microbiology/molecular biosciences and biotechnology.

Student: **Ashley Amidan** Project: Male mutation bias in *Drosophila* Fall 2015

Student: **Jacinda Garcia** Project: Modeling sex-biased population history Fall 2015

Student: **Daniel Cotter** Project: Diversity across the human pseudoautosomal region. Fall 2015

Student: **Joy Cruz** Project: Development of a model of nevi evolution. Summer 2015

Student: **Shawn Rupp** Project: Dosage compensation in the green anole. Spring 2015

Student: **Marshall Styers** Project: Parent-of-origin effect of Turner Syndrome. Spring 2015

Student: **Joy Cruz** Project: Development of a model of nevi evolution. Spring 2015

Student: **Jada Wang** Project: Parent-of-origin effect of Turner Syndrome. Spring 2015

Student: **Alexandra Marinello** Project: Human X and Y gene evolution. Spring 2015

Student: **Ashley Amidan** Project: Coalescent modeling sex-biased population changes. Spring 2015

Student: **Daniel Cotter** Project: Diversity across the human pseudoautosomal region. Spring 2015

Student: **Samantha Daly** Project: Male-driven evolution in *Drosophila*. Spring 2015

Student: **Bich Vu** Project: Conservation of sex-determining genes. Spring 2015

TEACHING EXPERIENCE PRIOR TO ARIZONA STATE UNIVERSITY

University of California-Berkeley

Integrative Biology Honors Research Project, Primary Research Mentor, Summer/Fall 2013

Comparative Literature R1B: Misplaced Identities, Guest Lecture – “Scientific Writing.” Fall 2013

Bioengineering Undergraduate Design Research, Primary Research Mentor, Summer/Fall 2013

Statistical Genomics, Guest Lecturer – “Bioinformatics Methods & Accessing Data.” Spring 2013

Berkeley High School Outreach

Introduction to phylogenetic interpretation and analysis. Spring 2012, Spring 2013

The Pennsylvania State University

Introduction to Health and Human Sexuality, Invited Lecturer – “Comparative Sexuality.” June 2010

Molecular Evolution, Guest Lecturer – “Male Mutation Bias.” April 2010

Calculus and Biology I, Teaching Assistant – weekly recitations, proctor/grade exams, Fall 2006

Introductory Physiology, Exam Proctor, 2006-2007

Graduate Students as Teachers in Biotechnology

Taught hands on biotechnology, molecular biology and evolution annually to high school students in a week-long and day-long courses, 2010 program organizer. 2006-2010

Creighton University

Multi-variable Calculus teaching assistant, Spring 2005

Mathematics department tutor for Geometry through Multivariable Calculus, 2001-2005

TEACHING TRAINING COURSES

Sept 2014 “Peer-learning in the classroom”

Sept 2014 “Demofest at ASU: Innovating Teaching Practices”

Sept 2014 “Digital Portfolios at ASU”

Sept 2014 “Web-Conferencing: Engaging Your Students in Real Time!”

March 2012 “Preparing Future Faculty: How to Teach a Large Course”

March 2012 “Assessment of Teaching and Learning”

Feb 2012 “Strategies for Grading Efficiently and Effectively”

April 2010 “Hybrid Class Designs as a Way to Maximize Student Learning”

April 2010 “Graduate Instructor 102: Beyond the Basics of Course Design”

April 2010 “Making General Education Courses Relevant”

CURRENT MENTORING

Postdoctoral Research Scientist Mentor, Arizona State University (2 trainees)

- 2015-present **Tim Webster, Ph.D.**
Sex-biased population history, genetic diversity, and breast cancer exome variation.
- 2015-present **Pooja Narang, Ph.D.**
Sex chromosome evolution and the role of sex-linked genes in cancer pathogenesis.

Graduate Student Mentor, Arizona State University (5 trainees)

- 2014-present **Primary Ph.D. Thesis Advisor, Hien Vu**
Molecular evolution of sex-determining genes across vertebrates.
- 2014-present **Primary M.S. Thesis Advisor, Shawn Rupp,**
Squamate sex chromosome evolution and dosage compensation.
- 2015-present **Ph.D. Thesis Committee Member, Tara Furstenau**
Population genetics modeling, self-incompatibility, and isolation-by-distance.
- 2015-present **Ph.D. Thesis Committee Member, Diego Chowell**
Mathematical model of tumor heterogeneity.
- 2016-present **Ph.D. Thesis Committee Member, Adrienne H. Smith**
Transcriptome variation across the human brain.

Undergraduate Research Mentor, Arizona State University (11 students)

- 2015-present **Ephrance Peninah Kalungi**, Life history trait variation across mammals
- 2015-present **Valeria Valverde-Vesling**, Coalescent modeling of sex-biased variation
- 2015-present **Ethan Bate**, Coalescent modeling of sex-biased variation
- 2015-present **Jacinda Garcia**, Coalescent modeling of sex-biased variation
- 2015-present **Margaret Walters**, Life history trait variation across mammals
- 2015-present **Lidia Peon**, Life history trait variation across mammals
- 2014-present **Ashley Amidan**, Presented poster of research findings about human demography
- 2014-present **Sarah Brotman**, Pseudoautosomal region diversity; School of Life Sciences
Undergraduate Research funding; CLAS Summer REU funding
- 2014-present **Daniel Cotter**, Pseudoautosomal region diversity. Presented poster of research findings
- 2014-present **Sam Daly**, Male mutation bias; School of Life Sciences Undergraduate Research funding
- 2014-present **Jada Wang**, Parent-of-origin effect on the X. Presented poster of research findings

Barrett Honors Undergraduate Thesis committee, Arizona State University (1 students)

- 2015-present **Thesis Director, Daniel Cotter**, Biological Sciences major
Genetic variation in the human pseudoautosomal region
- 2015-present **Second reader, Diana Arroyo**, Biological Sciences major
Mammalian genome variation

Other Formal Mentoring (2 trainees)

- 2015-present **Pia Whai-Singh**, BASIS Ahwatukee High School
- 2015-present **Kimberly Olney**, Post-Baccalaureate

PREVIOUS MENTORING EXPERIENCE

Graduate Teaching Assistant Mentor, Arizona State University

- Spring 2016 BIO 345: Organic Evolution (4 TAs)
Andreina Castillo, Katherine Huxster, Bich Vu, Murray Johnston
- Spring 2015 BIO 345: Organic Evolution (4 TAs)
Tanvi Honap, Andreina Castillo, Katherine Huxster, Susanne Daly

Undergraduate Research Mentor, Arizona State University (12 students)

- 2014-2015 **Jaclyn Williams**, Evolution of lactation genes; Life history trait variation
- 2014-2015 **Kara Schaffer**, Candidate genes for Turner syndrome. Supported by Bidstrup Fellowship.
- 2014-2015 **Marshall Styers**, Parent-of-origin effect on the X. Presented poster of research findings.
- 2014-2015 **Joy Cruz**, Computationally modeling melanoma.
- 2014-2015 **Reena Marie Ygot**, Evolutionary dynamics of Ebola.

- 2014-2015 **Melinda Jenner**, Simulating effects of demographic history on male mutation bias. Presented a poster of research findings.
- 2014-2015 **Alexandra Marinello**, Investigating the timing of X-Y recombination suppression.
- 2014-2015 **Christopher Negrich**, Investigating the timing of X-Y recombination suppression.
- 2014-2015 **Caroline Erickson**, Investigating the molecular basis of mammary tissue development.
- 2014-2015 **David Barclay**, Evaluating positive selection on proteome evolution.
- Fall 2014 **William Martelly**, Evaluating positive selection on proteome evolution.
- Fall 2014 **Brittany Hammis**, Developing teaching materials for molecular evolution.

Barrett Honors Undergraduate Thesis committee, Arizona State University (4 students)

- 2015 **Second reader, Brendan Fries**, Biological Sciences major
Analyzing the spread of the Chikungunya virus in the Caribbean 2013-2015
- 2015 **Thesis Director, Kara Schaffer**, Biochemistry major
Evolutionary perspective suggests candidate genes for Turner Syndrome phenotype
- 2015 **Second reader, Ben Roos**, Computer Science major
Genie: A population genetics simulation built with JavaScript
- 2015 **Third reader, Elise Kulik**, Biological Sciences major, Mathematics minor
*The Sonoran Desert Tortoise (*Gopherus morafkai*) and Insights into Conservation Biology and Policy from the Mohave Desert Tortoise (*Gopherus agassizii*)*

Microbiology Senior Research Reader, Arizona State University (1 student)

- 2015 **Reena Marie Ygot**, Microbiology major
Gut microbiome and evolution

ASHG Trainee Networking Mentor

- 2014, 2015 Meet with graduate students and postdoctoral researchers to discuss research, networking and future career options.

Undergraduate Research Mentor, University of California, Berkeley (5 students)

- 2013-2014 **Michelle Senar**, Independent research experience course mentor, two semesters, provided graded assessments. Student accepted full time position as Associate Software Engineer at BrightSpace, 2015.
- 2013-2014 **Logan Curtis-Whitchurch**, Advisor for two semesters of senior honors research thesis, provided graded assessments. Manuscript in progress. Student accepted to University of Louisville Medical School, 2015.
- 2013 **Kellie Ottoboni**, Data for thesis project generated. Helped student to prepare NSF graduate research fellowship. Student accepted for PhD program at UC Berkeley, 2015.
- 2012-2013 **Kevin Luo**, Manuscript in progress. Preliminary data for grant generated. Student accepted to computer science graduate program at Stanford, 2015.
- 2012-2013 **Paulina Tsai**, Manuscript accepted at Berkeley Scientific Journal. Student accepted full time position as Program Coordinator at Palo Alto Medical Center, 2015.

2010 SMBE Undergraduate and Diversity Mentoring Program Mentor (1 student)

Attend sessions with and serve as contact point for the student, and explain the “goings-on” at a multi-day scientific conference to minimize the anxiety often felt by first-time conference attendees. Facilitate connections to graduate students, postdoctoral fellows and faculty members.

High School Research Mentor, The Pennsylvania State University (1 student)

- 2009-2010 **Lydia Krasilnikova**. Student accepted into MIT for undergraduate Mathematics major.

Integrative Biosciences, Bioinformatics and Genomics Graduate Student Mentor (9 students)

- 2006-2010 Met routinely with incoming graduate students to acclimate them to graduate life and assist with questions about the program.

PEER REVIEWER

See record: <https://publons.com/author/303792/melissa-wilson-sayres>

2016: 1 reviews

2015: 18 reviews

2014: 6 reviews

2012-2013: 4 reviews

Biology Letters

Biology Direct

BMC Genomics

Computational Biology & Chemistry

Dovepress

Frontiers

Genetics

Genome Biology and Evolution

Genome Research

Heredity

Journal of Genetics and Genomics

Molecular Biology and Evolution

PLoS Genetics

PLoS ONE

Science

Systematic Biology

Trends in Genetics

GRANTS/FELLOWSHIPS REVIEWER

2015

Agency for Science, Technology & Research (A*STAR) in Singapore

2014-2015

National Science Foundation (NSF) Graduate Research Fellowship

2014-2015

Leakey Foundation

2011-2012

National Graduate Women in Science (GWIS) Fellowships

2009

Penn State Commission for Women: Achieving Woman and Rosemary Schraer Awards

2007-2008

National Graduate Women in Science (GWIS) Fellowships

SCIENCE OUTREACH & VOLUNTEER

Ongoing

Science communication: Regular contributor at [Ask a Biologist](#), ASU.

Ongoing

Science communication: Regular science and academic posts, and follow-up discussion, at mathbionerd.blogspot.com and on pandasthumb.org.

Feb 2016

Being boss at being the boss, Invited speaker for Women in Science at ASU, Tempe, Arizona

Nov 2015

SACNAS: Inspiring Science Career Paths Panelist, Invited panelist discussing career options for ASU SACNAS; Advancing Chicanos/Hispanics & Native Americans in Science, Tempe, Arizona

Sep 2015

ASU School of Life Sciences Homecoming Booth, 800-1000 visitors. Vaccine awareness.
Wilson Sayres lab members: Jacinda Garcia, Ethan Bate

Sep 2015

ASU Biodesign Homecoming Booth, 800-1000 visitors. Groovy science: physics and chemistry behind lava lamps.
Wilson Sayres lab members: Maggie Walters

Aug 2015

Are women superior to men? A panel discussion on evolution and sex differences, Invited panelist for public lecture and discussion, Center for Evolution and Medicine, Arizona State University

May 2015

Interviewed about my research, graduate experience, training, and academic life for the [Rock Your Research](#) podcast series.

May 2015

Science Panelists at Phoenix ComiCon, Downtown Convention Center, Phoenix AZ:

"Safe Alien Sex" - Melissa Wilson Sayres

Do you have a hot date with a Horta? Being seduced by a salt monster? Have your eye on a foxy Ardat-Yakshi babe? Find out what you need to know so that your special night doesn't end in chemical burns, fried synapses, cranial hemorrhage, or death.

"In the Beginning" - Wilson Sayres lab members: Kimberly Olney, Shawn Rupp

How did life originate? It's one of the most intriguing unanswered questions in science. Learn about how cutting edge research is seeking to answer this question!

"It's Not a Debate: Evolution, Vaccines, and GMOs" - Wilson Sayres lab members: Kimberly Olney, Shawn Rupp

Why are so many topics in biology so fiercely debated? Learn about what the science says about evolution, vaccines, and GMOs and how all these topics tie together.

- Mar 2015* **Communicating the relevance of human evolution:** Invited participant in NESCent working group.
- Feb 2015* **Night of the Open Door organizer, Arizona State University:** Developed & implemented hands-on dog genetics and phylogenetic activities for approximately 5,000 members of the general public. *Instructions:* <https://sites.google.com/site/mwilsonsayres/science-outreach/activities>
- 2014* **Interviewed** about co-organized session, "The X-factor of Complex Disease," at ASHG 2014. Featured in [Meeting report in Genome Biology](#).
- 2014* **Interviewed** about [bioinformatics research](#) as part of a series with notable bioinformaticians.
- 2014* **Interviewed** about [genomic testing](#) as new resources surface for Phoenix Children's Hospital.
- 2014* **Interviewed** about [open access publishing](#) for Open Access Week by the ASU Library system.
- 2014* **Profiled for early career scientists** on "Breaking the (bio)code."
- 2014* **Profiled for 9th grade science class:** Provided a summary of life as a scientist, and answered high school questions about scientific research, training, and education.
- 2014* **Breaking Bio Episode #65,** "[Sex chromosomes & Math for Biologists, Dr. Melissa Wilson Sayres.](#)"
- Apr 2014* **@RealScientists curator:** <http://mathbionerd.blogspot.com/2014/04/my-time-as-real-scientist-realscientists.html>
- 2011-2014* **Berkeley High School Outreach Organizer:** Taught lesson on phylogenetics to sophomore and junior high school students; volunteered for the rest of a series of six evolution and forensics lessons.
- March 2013* **Reporting Across the Culture Wars: Engaging Media on Evolution:** Invited participant in NESCent catalysis group.
- 2007-2011* **Girl Scout Workshop Chair:** Initiated, organized and developed infrastructure for a bi-annual science outreach workshop, serving 50 7th-12th grade Girl Scouts each workshop. Chaired for 3 years, then served as training co-chair for 1 year.
- 2010* **USA Science and Engineering Festival, National GWIS Coordinator:** Organized GWIS members from across the country to develop and implement an interactive scientific activity for approximately 10,000 participants.
- 2007, '08, '10* **Pennsylvania Junior Academy of Science Research Presentation Judge**
- 2010* **The Pennsylvania State University Undergraduate Exhibition Poster Judge**
- 2008-2009* **Bioinformatics and Genomics Research Club Coordinator:** Initiated and organized monthly graduate student research presentations.
- 2005-2009* **English Conversation Partner:** Practiced spoken/written English with international grad students.
- 2008* **Pennsylvania Junior Science & Humanities Symposium (PA-JSHS) Poster Judge**
- 2008* **Tyrone Science Day Organizer:** Designed/ran "Dragon Genetics" workshop for 175 first grade students in Tyrone school district, Pennsylvania.

ORGANIZATIONS & AFFILIATIONS

American Society of Human Genetics, 2012-present

Society for Molecular Biology and Evolution, 2007-present

Society for the Study of Evolution, 2006-present

Sigma Delta Epsilon - Graduate Women in Science (GWIS), 2006-2014

Inside the Scientist's Studio, coordinator, 2008-2010

Voices Conference, committee member, 2007-2010; chair 2008-2009

Nu chapter president, 2007-2009; vice president, 2006-2007

Women in the Sciences and Engineering Institute (WISE), 2006-2011

WISE Institute Internal Advisory Board member, 2009-2011

WISE Camp Workshop volunteer – "Engineering: Designing Possibilities", 2009

Session developer for WISE Camp Workshop – “Dragon Genetics” for high school seniors, 2008
Program Assistant for WISE Week Day Camp, 2007

Commission for Women (CFW), The Pennsylvania State University, 2006-2009

Executive committee member, 2007-2009
Marketing committee chair, co-chair 2007-2009

Pi Mu Epsilon: Honorary National Mathematics Society, inducted 2002

INVITED LECTURES (40 total: 2 Plenary; 3 Conferences; 4 Public; 31 Seminars)

Wilson Sayres MA. Sex biased evolution and medical genomics.

May 2016 **Invited Junior Investigator Conference Presentation**, Center for Medical Genomics Retreat, The Pennsylvania State University, State College, PA

Wilson Sayres MA. Sex-biased genome evolution.

Apr 2016 **Seminar**, Evolutionary, Developmental & Population Genetics series, University of California-Davis, Davis, CA

Feb 2016 **Seminar**, Mindlin Sponsored Lecture, University of Washington, Seattle, WA

Feb 2016 **Seminar**, Committee on Genetics, Genomics & Systems Biology series, University of Chicago, Chicago, IL

Jan 2016 **Seminar**, Department of Ecology and Evolutionary Biology, University of Arizona, Tuscon, AZ

Sept 2015 **Seminar**, The School of Plant Sciences, University of Arizona, Tuscon, AZ

Wilson Sayres MA. Sex, evolution, and disease.

Sept 2015 **Seminar**, Department of Biology and Biochemistry, University of Houston, Houston, TX

July 2015 **Public audience**, hosted by Salon of the Senses & Biodesign Institute, Tempe, AZ

Wilson Sayres MA. Population genomics of sex chromosome evolution.

<http://dx.doi.org/10.6084/m9.figshare.1211929>

May 2015 **Plenary lecture**, BioConference Live 2015 Genetics and Genomics Conference

Oct 2014 **Conference**, The American Society of Human Genetics Annual Meeting, San Diego, CA

Oct 2014 **Seminar**, Molecular & Cellular Biology Graduate Colloquium, Arizona State University, Tempe, AZ

Wilson Sayres MA. Disease implications of human sex chromosome evolution.

Mar 2015 **Conference**, International Society for Evolution, Medicine, & Public Health, Arizona State University, Tempe, AZ

Wilson Sayres MA. New directions: Sex chromosomes, evolution, and sex-biased disease.

Nov 2014 **Seminar**, Center for Evolution and Medicine, Arizona State University, Tempe, AZ.

Wilson Sayres MA. Sex-biased evolution and disease.

Oct 2014 **Seminar**, Center for Personalized Diagnostics, The Biodesign Institute, Arizona State University, Tempe, AZ

Aug 2014 **Seminar**, Translational Genomics Research Institute, Phoenix, AZ

Mar 2014 **Seminar**, Department of Biological Sciences, Louisiana State University, Baton Rouge, LA

Mar 2014 **Seminar**, School of Integrative Biology, The University of Illinois, Campaign-Urbana, IL

Feb 2014 **Seminar**, Department of Biological Sciences, The University of Alabama, Tuscaloosa, AL

Feb 2014 **Seminar**, School of Life Sciences, Arizona State University, Tempe, AZ

Feb 2014 **Seminar**, Biology Department, Clark University, Worcester, MA

Feb 2014 **Seminar**, Biological Sciences, Auburn University, Auburn, AL

Feb 2014 **Seminar**, Department of Biological Statistics & Computational Biology, Cornell University, Ithaca, NY

Feb 2014 **Seminar**, Department of Biology and Biotechnology, Worcester Polytechnic Institute, Worcester, MA

Nov 2013 **Seminar**, Department of Mathematics, Creighton University, Omaha, NE

Nov 2013 **Seminar**, Department of Computational Medicine and Bioinformatics, The University of Michigan Medical School, Ann Arbor, MI

Nov 2013 **Seminar**, Department of Biology, The University of Texas-Tyler, Tyler, TX

Nov 2013 **Seminar**, Department of Biology, The University of Kentucky, Lexington, KY

- Sep 2013 **Seminar**, Department of Ecology & Evolutionary Biology, The University of Kansas, Lawrence, KS
 Sep 2013 **Seminar**, Center for Medical Genomics, The Pennsylvania State University, State College, PA
- Wilson Sayres MA**. Sex, Male Bias, and Degeneration.
 Aug 2013 **Public audience**, hosted by the Bay Area Skeptics, Berkeley, CA
- Wilson Sayres MA**. What can we learn about ourselves by studying sex chromosomes.
 Jun 2013 **Public audience**, hosted by Graduate Women in Science - Omicron Chapter, Bethesda, MD
- Wilson Sayres MA**. Selection drives diversity on human Y chromosomes.
 Nov 2012 **Seminar**, Bioinformatics seminar at the University of Nebraska-Lincoln. Lincoln, NE
- Wilson Sayres MA**. Gene retention and loss on human Y chromosomes.
 Oct 2012 **Seminar**, Mathematics department at the University of North Texas. Denton, TX
- Wilson Sayres MA**. Life history traits affect the magnitude of male mutation bias across 32 eutherian mammals.
 Nov 2012 **Seminar**, Biology Department at Creighton University. Omaha, NE
 Oct 2011 **Seminar**, Ecology and Evolution Colloquium at San Francisco State University. San Francisco, CA
- Wilson MA**. Genomic analyses of sex chromosome evolution.
 Oct 2010 **Seminar**, Center for Theoretical & Evolutionary Genetics, University of California-Berkeley. Berkeley, CA
- Wilson MA**. Evolution and survival on eutherian sex chromosomes.
 Sep 2009 **Seminar**, Ecology and Evolution seminar at The University of Pittsburgh. Pittsburgh, PA
 Sep 2008 **Seminar**, Bioinformatics Research Center at Aarhus University. Aarhus, Denmark
- Wilson MA**. Transitioning to graduate research: Integrative research at Penn State.
 Oct 2007 **Public audience**, hosted at Creighton University. Omaha, NE
- Wilson MA**. Research experiences for undergraduates: A stoichiometric model for tumor growth.
 Oct 2006 **Plenary lecture**, The University of Nebraska at Lincoln, 8th Annual Regional Mathematics Conference. Lincoln, NE

ORAL PRESENTATIONS (#Trainees. 19 total: 3 by trainees; 16 as primary presenter)

19. Chowell D[#], Napier J, Maley C and **Wilson Sayres MA**. Dynamics of heterogeneous clonal evolution in cancer cell populations. **Selected talk**. Evolution and Cancer Conference. San Francisco, CA, USA, *December 2015*.
18. **Wilson Sayres MA**. Diversity varies across recombining and non-recombining regions of the human sex chromosomes. **Selected talk**. American Society of Human Genetics, Baltimore, MD, *October 2015*.
17. Narang P[#] and **Wilson Sayres MA**. Variable X/A divergence and male-mutation bias near and far from genes in great apes. **Selected talk**. Society for Molecular Biology and Evolution, Vienna, Austria, *June 2015*.
16. **Wilson Sayres MA**. Diversity varies across recombining and non-recombining regions of the human sex chromosomes. **Selected talk**. Society for Molecular Biology and Evolution, Vienna, Austria, *June 2015*.
15. Narang P[#] and **Wilson Sayres MA**. Variable X/A divergence and male-mutation bias near and far from genes in great apes. **Selected talk** at Southern California Evolution and Genomics meeting, Riverside, CA, *April 2015*.
14. **Wilson Sayres MA**. Modeling human Y chromosome bottlenecks and historical effective population size. **Selected talk** at Southern California Evolution and Genomics meeting, Riverside, CA, *April 2015*.
13. **Wilson Sayres MA**, Lohmueller K, and Nielsen R. Abundant natural selection reduced diversity on human Y chromosomes. **Selected talk**. American Society of Human Genetics. San Francisco, CA, *November 2012*.
12. **Wilson Sayres MA**, Venditti C, Chairmonte F, Pagel M, and Makova KD. Life history traits affect the magnitude of male mutation bias across 32 eutherian mammals. **Selected talk**. Society for Molecular Biology and Evolution 2010. Lyon, France, *July 2010*.
11. **Wilson Sayres MA**, Venditti C, Chairmonte F, Pagel M, and Makova KD. Life history traits affect the magnitude of male mutation bias across 32 eutherian mammals. **Talk**. Evolution 2010. Portland State University, Portland, OR, *June 2010*.

10. **Wilson Sayres MA**, Venditti C, Chairomonte F, Pagel M, and Makova KD. Life history traits affect the magnitude of male mutation bias across 32 eutherian mammals. **Seminar**. The Institute for Molecular Evolutionary Genetics at The Pennsylvania State University. State College, PA, *April 2010*.
9. **Wilson MA**, Chiaromonte F and Makova KD. Male mutation bias observed across 34 mammalian genomes. **Selected talk**. Sex and Recombination: In Theory & In Practice. Iowa City, IA, *June 2009*.
8. **Wilson MA** and Makova KD. Evolution and survival on eutherian sex chromosomes. **Talk**. Munich EES Summer School on "The Evolution of Sex Chromosomes". Frauenchiemsee, Germany, *September 2008*.
7. **Wilson MA** and Makova KD. Evolution and survival on eutherian sex chromosomes. **Talk**. Evolution 2008. Minneapolis, MN, *June 2008*.
6. **Wilson MA** and Makova KD. Evolution and survival on eutherian sex chromosomes. **Seminar**. The Institute for Molecular Evolutionary Genetics at The Pennsylvania State University, State College, PA, *March 2008*.
5. **Wilson MA** and Zelnio K. A natural history of unintelligent design: In celebration of Darwin day. **Talk**. The Biology Department Graduate Student Association. State College, PA, *February 2008*.
4. **Wilson MA** and Makova KD. A unique type of duplication: how do genes survive on sex chromosomes? **Selected talk**. Society for Molecular Biology and Evolution 2007. Nova Scotia, Canada, *June 2007*.
3. **Wilson MA** and Malkmus D. Assessing the status of undergraduate women students at Penn State University. **Presentation** to Dr. Graham Spanier, President of The Pennsylvania State University. University Park, PA, *March 2007*.
2. **Wilson MA** and Makova KD. Evolution of sex linked genes versus their autosomal counterparts: A comparison between human, mouse and opossum. **Talk**. Evolution 2006. Stony Brook, NY, *July 2006*.
1. **Wilson MA**, Ufimtsev V and Deng B. A Stoichiometric model for tumor formation. **Talk**. the Joint American Mathematics Association/Mathematics Association of America National meeting. Atlanta, GA, *January 2005*.

POSTER PRESENTATIONS (#Trainees. 22 total: 14 by trainees; 8 as primary presenter)

22. Olney K[#], Skotte L, Nielsen R and **Wilson Sayres MA**. Accurately inferring imbalanced allele expression using logistic regression models. **Poster**. American Society of Human Genetics. Baltimore, MD, USA, *October 2015*. <http://dx.doi.org/10.6084/m9.figshare.1564499>
21. Wang J[#], Styers M[#] and **Wilson Sayres MA**. Parent-of-origin effects in people with Turner syndrome. **Poster**. AZ BioIndustry Association (AZBio). Phoenix, AZ, USA, *October 2015*. <http://dx.doi.org/10.6084/m9.figshare.1463398>
20. Olney K[#], Skotte L, Nielsen R and **Wilson Sayres MA**. Accurately inferring imbalanced allele expression using logistic regression models. **Poster**. AZ BioIndustry Association (AZBio). Phoenix, AZ, USA, *October 2015*. <http://dx.doi.org/10.6084/m9.figshare.1564499>
19. Wang J[#], Styers M[#] and **Wilson Sayres MA**. Parent-of-origin effects in people with Turner syndrome. **Poster**. ASU School of Life Sciences Undergraduate Research Poster Symposium. Tempe, AZ, USA, *April 2015*. <http://dx.doi.org/10.6084/m9.figshare.1463398>
18. Brotman S[#], Cotter D[#] and **Wilson Sayres MA**. Using diversity to measure boundaries of the pseudoautosomal regions in human sex chromosomes. **Poster**. ASU School of Life Sciences Undergraduate Research Poster Symposium. Tempe, AZ, USA, *April 2015*. <http://dx.doi.org/10.6084/m9.figshare.1463393>
17. Vu B[#] and **Wilson Sayres MA**[#]. Patterns of evolution across vertebrate sex determining genes. **Poster**. ASU School of Life Sciences Undergraduate Research Poster Symposium. Tempe, AZ, USA, *April 2015*. <http://dx.doi.org/10.6084/m9.figshare.1463397>
16. Rupp S[#], Olney K[#] and **Wilson Sayres MA**. Characterizing sex-biased gene expression in the green anole. **Poster**. ASU School of Life Sciences Undergraduate Research Poster Symposium. Tempe, AZ, USA, *April 2015*. <http://dx.doi.org/10.6084/m9.figshare.1463395>
15. Rupp S[#], Olney K[#] and **Wilson Sayres MA**. Characterizing sex-biased gene expression in the green anole. **Poster**. Arizona Bioindustry Association Expo, Phoenix, AZ, USA, *April 2015*. <http://dx.doi.org/10.6084/m9.figshare.1463395>

14. Wang J[#], Styers M[#] and **Wilson Sayres MA**. Parent-of-origin effects in people with Turner syndrome. **Poster**. International Society for Evolution, Medicine, & Public Health. Tempe, AZ, USA, *March 2015*. <http://dx.doi.org/10.6084/m9.figshare.1463398>
13. Jenner M[#], Amidan A[#] and **Wilson Sayres MA**. Modeling the contrasting Neolithic lineage expansions in Europe and Africa. **Poster**. International Society for Evolution, Medicine, & Public Health. Tempe, AZ, USA, *March 2015*. <http://dx.doi.org/10.6084/m9.figshare.1463394>
12. Rupp S[#], Olney K[#] and **Wilson Sayres MA**. Characterizing sex-biased gene expression in the green anole. **Poster**. International Society for Evolution, Medicine, & Public Health. Tempe, AZ, USA, *March 2015*. <http://dx.doi.org/10.6084/m9.figshare.1463395>
11. Vu B[#] and **Wilson Sayres MA**. Patterns of evolution across vertebrate sex determining genes. **Poster**. International Society for Evolution, Medicine, & Public Health. Tempe, AZ, USA, *March 2015*. <http://dx.doi.org/10.6084/m9.figshare.1463397>
10. Schaffer K[#] and **Wilson Sayres MA**. Evolutionary perspective suggests candidate genes for variation in Turner Syndrome phenotype. **Poster**. International Society for Evolution, Medicine, & Public Health. Tempe, AZ, USA, *March 2015*. <http://dx.doi.org/10.6084/m9.figshare.1463396>
9. Brotman S[#], Cotter D[#] and **Wilson Sayres MA**. Using diversity to measure boundaries of the pseudoautosomal regions in human sex chromosomes. **Poster**. International Society for Evolution, Medicine, & Public Health. Tempe, AZ, USA, *March 2015*. <http://dx.doi.org/10.6084/m9.figshare.1463393>
8. **Wilson Sayres MA** and Luo K[#]. Dating evolutionary strata on the human sex chromosomes reveals complex history of X-Y recombination suppression. **Poster**. Society for Molecular Biology and Evolution 2014. San Juan, Puerto Rico, *June 2014*. <http://dx.doi.org/10.6084/m9.figshare.1032769>
7. **Wilson Sayres MA**, Shankey Pander R[#], and Azad R. Detecting evolutionary strata on the human X chromosome: Markov segmentation and clustering analysis. **Poster**. American Society of Human Genetics 2013. Boston, MA, USA, *October 2013*. <http://dx.doi.org/10.6084/m9.figshare.804327>
6. **Wilson Sayres MA**, Lohmueller K, and Nielsen R. Natural selection reduced diversity on human Y chromosomes. **Poster**. Society for Molecular Biology and Evolution 2014. Chicago, IL, USA, *July 2013*. <http://dx.doi.org/10.6084/m9.figshare.806296>
5. **Wilson Sayres MA** and Makova KD. Learning from genetic fossils on the human Y chromosome. **Poster**. Society for Molecular Biology and Evolution 2012. Dublin, Ireland, *June 2012*. <http://dx.doi.org/10.6084/m9.figshare.806297>
4. **Wilson Sayres MA** and Makova KD. Can features of X-linked genes predict the demise of their Y-linked homologs? **Poster**. Human Genome Variation 2011. Berkeley, CA, USA *September 2011*.
3. **Wilson Sayres MA**, Venditti C, Chairmonte F, Pagel M, and Makova KD. Life history traits affect the magnitude of male mutation bias across 32 eutherian mammals. **Poster**. The Biology of Genomes. Cold Spring Harbor, NY, USA *May 2010*.
2. **Wilson Sayres MA**, Venditti C, Chairmonte F, Pagel M, and Makova KD. Life history traits affect the magnitude of male mutation bias across 32 eutherian mammals. **Poster**. The Graduate Exhibition at The Pennsylvania State University. State College, PA, USA *March 2010*.
1. **Wilson MA**, Chiaromonte F and Makova KD. Male mutation bias observed across 34 mammalian genomes. **Poster**. Society for Molecular Biology and Evolution 2009. Iowa City, IA, USA *June 2009*.

SCIENCE IN THE NEWS

- 2016 Featured in NatureJobs, The Faculty series: Applying for grants, by Viviane Callier.
- 2015 Research coverage about our published research on the role of microchimerism in maternal health by journalists at The New York Times, National Geographic, The Smithsonian Magazine.
- 2015 Article about ongoing research on the human X and Y, "Human Sex Chromosomes are Sloppy DNA Swappers", by Viviane Callier.
- 2015 Interviewed by Ed Yong from National Geographic as an expert about temperature-dependent and genetic sex determination in bearded dragons.
- 2015 Interviewed our published research, "A recent bottleneck of Y chromosome diversity coincides with a global change in culture", interviewed by, Danielle Paquette, Washington Post; Mark Brodie, KJZZ NPR; Francie Diep, Pacific Stand; and featured on: Slate, IFLS, and reddit.
- 2014 Conference on World Affairs panelist, "56 different points on the gender spectrum."
- 2014 Interviewed by Maria Armoudian on The Scholar's Circle along with Jeremy Nathans, about the X and Y chromosomes.
- 2014 Interviewed about Y chromosomes by Jonathan Green of ABC (Australian Broadcasting Compation) Radio National – "Y chromosome not superfluous: new research."
- 2014 Interviewed about work studying variation on the human Y chromosome by journalists at The Guardian, Huffington Post, and Zeit Online (German).
- 2013 Interviewed by Ed Yong from National Geographic about inherited human sex reversal due to variations in the SRY gene.
- 2013 Requested to comment on TMRCA of Y and mtDNA, and timing of Y common ancestor Interviewed separately by: Tia Gohsh, Live Science; Erin Wayman, Science News
- 2013 Requested to comment on the identification of an ancient Y lineage, Interviewed by: Alan Boyle, NBC Science
- 2012 Regarding my research, "Natural selection reduced diversity on human Y chromosomes", Interviewed by: Tia Gohsh, Live Science
- 2012 Requested to comment on the publication of the Rhesus Y chromosome, Interviewed by Dinsa Sachan, Down to Earth magazine
- 2009 Regarding, "Evolution and survival on eutherian sex chromosomes", Interviewed by ABC Health News, ScienceNOW, Science podcast, Los Angeles Times, Popular Science, L'Espresso, and The Discovery Channel