

Melissa A. Wilson Sayres

Assistant Professor, Arizona State University
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FACULTY APPOINTMENTS

Assistant Professor, Genomics, Evolution, and Bioinformatics, August 2014-present

School of Life Sciences
Evolutionary Biology Graduate Program, co-Chair
Center for Evolution and Medicine (CEM)
Barrett, The Honors College, Honors Faculty
Biodiversity Knowledge Integration Center (BioKIC)
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.

HONORS & AWARDS

- 2017 *Nominee*, Badass Woman of ASU
- 2017 *Nominee* Zebulon Pearce Distinguished Teaching Award, Arizona State University, also nominated 2015, 2016
- 2012 *Semifinalist* Charles J. Epstein Trainee Award for Excellence in Human Genetics Research
- 2010 *Awardee* Mohnkern Scholarship, The Pennsylvania State University
- 2010 Evolution 2010 Conference Travel Fellowship
- 2010 *Second Place Award*, Grad Exhibition Poster Competition, Pennsylvania State University

- 2010 *Awardee* Braddock Homer Research Award, The Pennsylvania State University
- 2010 *First Place Award*, Genome Research poster competition at CSH: The Biology of Genomes
- 2010 *Awardee* Institute of Molecular Evolutionary Genetics, Competitive Travel Grant
- 2010 *Awardee* Women In the Sciences and Engineering, Travel Grant (\$250 each year)
- 2009 *Awardee* Sex & Recombination: In Theory and Practice Conference, 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 Chr
- 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

PUBLICATIONS

(Trainees: ^u undergraduate; ^g graduate; ^p postdoctoral; ^t technician/programmer/other)

Total citations: 1366; h-index: 12; i10-index: 13

In Review/In Revision

24. **Wilson Sayres MA**. Genetic diversity on sex chromosomes. 2017. *Genome Biology and Evolution*. (in revision: Manuscript available upon request).
23. Rupp S^g and **Wilson Sayres MA**. AlignmentProcessor: A fast python filter for multiple species alignments. (in review: Manuscript available upon request).
22. Chowell D^g, Napier J, Gupta R, Anderson K, Maley C and **Wilson Sayres MA**. Dynamics of heterogeneous clonal evolution in cancer cell populations. (in review: Manuscript available upon request).

Published Research Articles (21 total: 10 first authorships; 11 corresponding authorships)

2016 (7)

21. Taravella A^g and **Wilson Sayres MA**. 2016. Fruitful analysis of sex chromosomes reveals X-treme genetic diversity. *Genome Biology*. (accepted).
20. Rupp S^g, Webster TH^p, Olney K^t, Hutchins E, Kusumi K and **Wilson Sayres MA**. 2016. Evolution of dosage compensation in *Anolis carolinensis*, a reptile with XX/XY chromosomal sex determination. *Genome Biology and Evolution* (accepted).
19. Narang P^p and **Wilson Sayres MA**. 2016. Variable autosomal and X divergence near and far from genes affects estimates of male mutation bias in great apes. *Genome Biology and Evolution*. (accepted).
18. Webster T^p and **Wilson Sayres MA**. 2016. Genetic signatures of sex-biased demography: progress and prospects. *Current Opinion in Genetics and Development* 3(41): 62-71.
doi:10.1016/j.gde.2016.08.002

17. Pagani L... **Wilson Sayres MA**... et al. 2016. Genomic analyses inform on migration events during the peopling of Eurasia. *Nature* 538: 238-242. doi:10.1038/nature19792

16. Poznik GD, Xue Y, Mendez F, Willems T, Massaia A, **Wilson Sayres MA**, et al. (37 others). 2016. Punctuated bursts in human male demography inferred from 1,244 worldwide Y-chromosome sequences. *Nature Genetics* 48: 593-599. doi: 10.1038/ng.3559

15. Cotter DJ^u, Brotman SM^u and **Wilson Sayres MA**. 2016. Genetic diversity on the human X chromosome does not support a strict pseudoautosomal boundary. *Genetics* 203(1): 485-492. doi:10.1534/genetics.114.172692

2015 (3)

14. 1000 Genomes Consortium ... **Wilson Sayres MA**... . 2015. A global reference for human genetic variation. *Nature* 526: 68-74. doi:10.1038/nature15393

13. 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. doi:10.1101/gr.186684.114

12. 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. doi:10.1002/bies.201500059

2014 (1)

11. **Wilson Sayres MA**, Lohmueller KE and Nielsen R. 2014. Natural selection reduced diversity on human Y chromosomes. *PLoS Genetics* 10(1): e1004064. doi:10.1371/journal.pgen.1004064

2013 (5)

10. Tsai Paulina^u and **Wilson Sayres MA**. 2013. Evolution of the phosphatase gene family across nematode worms and flies. *Berkeley Scientific Journal* 18(1): 87-93. <http://escholarship.org/uc/item/2sb4992b>

9. 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. doi:10.1093/gbe/evt139

8. 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. doi:10.1093/molbev/mst098

7. **Wilson Sayres MA***. 2013. Timing of ancient human Y lineage depends on mutation rate: a comment on Mendez et al. *arXiv*. 1304.6098.

6. **Wilson Sayres MA** and Makova KD. 2013. Gene survival and death on the human Y chromosome. *Molecular Biology and Evolution* 30(3): 781-7. doi:10.1093/molbev/mss267

2012 (1)

5. **Wilson Sayres MA**, Brooks AJ, Chanock SJ, Cheung V, Goldstein DB, Jin L, and Kwok P-Y. 2012. HGV2011: Personalized genomic medicine meets the incidentalome. *Human Mutation* 33(3): 582-5. doi:10.1002/humu.22008

2011 (2)

4. **Wilson Sayres MA**, and Makova KD. 2011. Genome analyses substantiate male mutation bias in many species. *BioEssays* 33(12): 938-45. doi:10.1002/bies.201100091

3. **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. doi:10.1111/j.1558-5646.2011.01337.x

2009 (2)

2. **Wilson MA**, and Makova, KD. 2009. Genomic analyses of sex chromosome evolution. *Annual Reviews of Human Genetics and Genomics* **10**: 333-54. doi:10.1146/annurev-genom-082908-150105

1. **Wilson MA**, and Makova, KD. 2009. Evolution and survival on eutherian sex chromosomes. *PLoS Genetics* **5**(7): e1000568. doi:10.1371/journal.pgen.1000568

Encyclopedia Entries, Peer-reviewed Abstracts, Book Contributions and Chapters (5 total)

5. Contributor. 2016. *Frankenstein: A New Edition for Scientists and Engineers*. Editors: Jason Robert, David Guston, and Ed Finn. MIT Press (*ASU's Lincoln Center for Applied Ethics*).

4. **Wilson Sayres MA**. 2016. Pseudoautosomal Linkage, Region, Reference Module in Life Sciences. Brenner's Online Encyclopedia of Genetics (*invited*).

3. **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.

2. **Wilson Sayres MA**. 2013. Pseudoautosomal Linkage, Region, In: Brenner's Encyclopedia of Genetics (Second Edition). Elsevier: 514-516.

1. 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.

Software and Protocols

5. *XYalign*, Accurate aligning sex chromosomes: <https://github.com/WilsonSayresLab/XYalign>

4. *TumorSim*, Simulating tumor heterogeneity: <https://github.com/WilsonSayresLab/TumorHeterogeneity>

3. *AlignmentProcessor*, Filter/analyze seq: <https://github.com/WilsonSayresLab/AlignmentProcessor>

2. *DNA extraction outreach*: <https://www.protocols.io/view/Extracting-DNA-from-bananas-esvbee6>

1. *ASEofBases*, Allele specific expression pipeline: <https://github.com/WilsonSayresLab/ASEofBases>

Research featured in these textbooks

2016 Evolution (Bergstrom and Dugatikin; 2nd Edition, W.W. Norton & Company, February 2016)

RESEARCH SUPPORT

Active (6):	Duration	Total	Status
<i>Individual (1):</i>			
2. MF17-UMR02 (Mindlin Foundation) "Mathematical modeling of nevi to understand melanoma" PI: Wilson Sayres (100%)	Jan 2017 – Dec 2017	\$5000	current
<i>Collaborative (5):</i>			
5. Lincoln Center for Applied Ethics "Race and Ethnicity: Incorporating History, Society, and Genetics to Improve Human Health." PI: Wilson Sayres (100%) ; Co-I: Delmont; Co-I: Wernemont	May 2017 – May 2018	\$5500	current
4. AZ Game and Fish: Heritage "Characterizing Gopherus hybrids and speciation through genomics analyses." PI: Wilson Sayres (100%) ; Co-I: Webster; Co-I: Dolby	Jul 2017 – Jun 2019	\$33K	current

3. Cancer Genomics Cloud "Resources for Collaborative Projects on Seven Bridges CGC." PI-I: Wilson Sayres ; co-I: Pooja Narang; *All funds to computational cluster for analysis	Feb 2017 – Dec 2017	\$10K	<i>current</i>
2. ASU-Mayo Seed Grant "Evolution of X-inactivation in breast cancers." ASU Co-I: Wilson Sayres (30%; \$15,025) ; Mayo Co-I: Barrett (70%)	Jan 2017 – Dec 2017	\$50K	<i>current</i>
1. Breast Cancer Research Foundation "Targeting breast cancer tumor antigens for immunotherapy." PI: Anderson; Co-I: Wilson Sayres (10%; \$24,283) , Borges	Oct 2016 – Sept 2017	\$250K	<i>current</i>

Completed (14):	Duration	Total	Status
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Individual (7):

7. Experiment.com "Gila monster genomics: conservation, venom, and treatments for Type-II diabetes" PI: Wilson Sayres (100%)	Apr 2016-Apr 2017	\$10K	<i>completed</i>
6. Center for Evolution and Medicine Internal Event Award "Molecular Evolution of Sex" PI: Wilson Sayres (100%)	Oct 2016	\$15K	<i>completed</i>
5. American Genetic Association Special Event Award "Molecular Evolution of Sex" PI: Wilson Sayres (100%)	Oct 2016	\$15K	<i>completed</i>
4. MF15-UMR02 (Mindlin Foundation) "Characterizing sex-biased gene expression in the green anole" PI: Wilson Sayres (100%)	Jan 2015 – Dec 2015	\$2500	<i>completed</i>
3. MF15-UMR03 (Mindlin Foundation) "Patterns of evolution across vertebrate sex determining genes" PI: Wilson Sayres (100%)	Jan 2015 – Dec 2015	\$2500	<i>completed</i>
2. Miller Institute for Basic Research in Science Postdoctoral Fellowship PI: Wilson Sayres (100%)	July 2011 – June 2014	\$225K	<i>completed</i>
1. NSF Graduate Research Fellowship PI: Wilson Sayres (100%)	July 2006 – June 2009	\$90K	<i>completed</i>

Collaborative (5):

5. SOLS Internal RTI "Deciphering ecological drivers of speciation & local adaptation in the desert tortoise complex" Co-I: Wilson Sayres (internal funding) ; Co-I: Kusumi; Trainees: Webster and Dolby	June 2016 – Dec 2016	\$7500	<i>completed</i>
4. Flinn Foundation "Melanoma Transformative Medical Alliance: The role of sex in melanoma drug resistance." PI: Sekulic; Co-I: Hendricks; Co-I: Wilson Sayres (33%) ; Co-I: Maley	Jan 2016 – June 2016	\$100K	<i>completed</i>
3. ASU IHO "DNA and human origins at ASU"	Aug 2015 – June 2016	\$100K	<i>completed</i>

PI: Stone; Co-I: Gilby; Co-I: Rosenberg; Co-I: **Wilson Sayres (0%)**; Co-I: Cartwright

2. NSF DBI 1446483 (BEACON) Aug 2015 – June 2016 \$48,294 *completed*
“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 (0%; all to support trainees)**

1. Outreach Thematic Initiative Fund July 2009 – June 2010 \$10K *completed*
“Public Service Announcements Promoting Careers in Science and Mathematics.”

PI: Nathaniel Brown, co-PI: **Melissa Wilson (0%; all funds to production)**, Barbara Houtz, Babs L Bengtson, Elizabeth Hutton, rural Multi-District Academic Space Alliance

Trainee (2):

2. NIH IMSD Sept 2016 – May 2017 ~\$2500 *completed*
Initiative for Maximizing Student Development

PI: **Wilson Sayres (0%, all to support trainee)**; Trainee: *Samantha Daly*

1. NIH IMSD Jan 2016 – May 2017 ~\$5000 *completed*
Initiative for Maximizing Student Development

PI: **Wilson Sayres (0%, all to support trainee)**; Trainee: *Valeria Valverde-Vesling*

Arizona State University trainee research funding (7):

Summer 2016 SOLUR Summer Research Experience Award, Ephrance Kalungi

Summer 2016 CLAS Undergraduate Summer Enrichment, Samantha Daly

Summer 2015 – Spring 2016 SOLUR mentored award, Samantha Daly

Summer 2015 – Fall 2016 SOLUR mentored award, Sarah Brotman

Spring 2015 – Fall 2016 SOLUR mentored award, Shawn Rupp

Summer 2015 CLAS Undergraduate Summer Enrichment, Sarah Brotman

Dec 2014 – May 2015 Bidstrup Foundation Undergraduate Fellowship, Kara Schaffer

MENTORED TRAINEE HONORS & AWARDS

Spring 2017 Angela Taravella^g, CLAS Graduate Excellence Fellowship
Sarah Brotman^u, Outstanding Graduating Senior; Student of the Year-Biological Sciences
Daniel Cotter^u, Origins Project Undergraduate Research Award
Daniel Cotter^u, Ralph A. Fisher, Jr. Scholarship

Summer 2016 Shawn Rupp^g, SMBE Travel Award

Fall 2016 Samantha Daly^u, Dean's Research Scholarship
Shawn Rupp^u, Origins Project Norm Perrill Scholarship

Spring 2016 Sarah Brotman^u, Undergraduate Outstanding Service award
Danny Cotter^u, Ralph A. Fisher, Jr. Scholarship
Lidia Peon^u, Jerome Aronson Plant Biology Scholarship

Summer 2015 Shawn Rupp^u, Selected to attend “Bioinformatics & Biodiversity”
Pooja Narang^p, Society for Molecular Biol & Evolution Young Investigator Travel Award

PROFESSIONAL SERVICE

National/International Conference Organizing, Reviewing, and Moderating

2017-2020	Organizing Committee Member, Genome Informatics Annual Course
2017	Session co-organizer, "Mechanisms of phenotypic evolution", at SMBE 2017 in Austin, TX, USA, July
2016	Conference organizer, "Molecular Evolution of Sex", Tempe, AZ, USA, October
2016	Session moderator, "Inferring the action of natural selection", at ASHG 2016 meeting, in Vancouver, CANADA, 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
2016	Program committee member, Bioinformatics Open Source Conference (BOSC), Orlando, FL, July
2016	Session moderator, "Selection, stress, and homeostasis", International Society for Evolutionary Medicine and Public Health, Durham, NC, USA, June
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, 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

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

American J. of Human Genetics	G3: Genes, Genomes, Genetics	Nature Communications
Annals of Human Genetics	Genetics	PLoS Genetics
Biology Letters	Genome Biology	PLoS ONE
Biology Direct	Genome Biology and Evolution	Science
BMC Genomics	Genome Research	Systematic Biology
Computational Biology & Chemistry	Heredity	Theoretical Biology and Mathematical Modeling
Dovepress	Journal of Genetics and Genomics	Trends in Genetics
Frontiers	Molecular Biology and Evolution	

Society Service and Leadership

- 2017-2020 Associate Editor, *Evolution* (3 manuscripts handled)
- 2017-2018 Special Issue Associate Editor, *Journal of Heredity* (7 manuscripts handled)
- 2017 Guest Associate Editor, *PLoS Genetics* (1 manuscripts handled)
- 2017-2019 Council Member, American Genetic Association
- 2016-2017 Editorial Board Member, *Chimerism*

Grants and Fellowships Reviewer

- 2017 American Genetic Association Graduate/Postdoc awards
- 2017 *ad hoc* NSF Division of Molecular and Cellular Biosciences
- 2016-2017 Board member, Science Ambassador Scholarship, Cards Against Humanity
- 2016 *ad hoc* NSF Division of Environmental Biology
- 2016 Biotechnology and Biological Sciences Research Council (BBSRC)
- 2016 Leakey Foundation
- 2015 Agency for Science, Technology & Research (A*STAR) in Singapore
- 2014-2015 NSF Graduate Research Fellowship
- 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

Computational Biology and Bioinformatics Education/Training

- 2016 Team leader, HackSeq (<http://www.hackseq.com>), October
- 2016-present Organizer, ASU genomics group
- Aug *Intro to HPC/Research computing*, 2-hour workshop (28 participants)
 - Aug *R: Reproducible molecular evolution*, 2-hour workshop (23 participants)
 - May *De novo genome assembly* workshop, 2-hour workshop (45 participants)
 - May *CoGe (comparative genomics server)*, Full-day workshop, sponsored by Biodiversity Knowledge Integration Center (35 participants)
 - Mar *Intro to the awk*, 1-hour workshop (34 trainees)
 - Jan *Intro to command line*, 1-hour workshop (15 trainees)
 - Jan *Galaxy (bio-computing)*, Full-day workshop, sponsored by Biodiversity Knowledge Integration Center (48 participants)
 - Jan *Intensive Python Bootcamp*, Full-day workshop (15 trainees)
- 2015-present Invited Member, (NSF-funded) *Network for Integrating Bioinformatics into Life Sciences Education (NIBLSE) Research Coordination Network (RCN) Core Competencies Working Group Member*. *Core Competencies* working group to develop a standardized set of training goals for undergraduate education in bioinformatics.
- 2014 Invited participant, (NSF-funded) *Network for Integrating Bioinformatics into Life Sciences Education (NIBLSE) Research Coordination Network (RCN) participant*. Workshop to

advance and develop a standardized set of training goals for undergraduate education in bioinformatics: [Award 1346559](#). Omaha, Nebraska, April 2015.

Arizona State University: College of Liberal Arts and Sciences

- 2017-2018 Organizer, Developing Educational Scholars Initiative
Institute for the Science of Teaching and Learning
- 2016-2017 Training committee chair, Faculty Research Computing Working Group
- 2016 ASU participant, Hortonworks Genomics Initiative
- 2015-2016 Member, Faculty Research Computing Working Group
- 2015 Panelist, Funding success skills series: Professors and Proposals @ 1, 5 and 10 years
- 2014-2015 Member, Biocomputing Advisory Committee

Arizona State University: School of Life Sciences (SOLS) & Center for Evolution & Medicine (CEM)

- 2016-2017 Member, SOLS/CEM search committee
- 2016-2017 Co-Chair, Evolutionary Biology Graduate Program
- 2016-2017 Member, CEM Research Committee
- 2015-2016 Organizer, SOLS Seminar Series
- 2016 Fellow applicant reviewer, School of Life Sciences Undergraduate Research program
- 2015-2016 Member, Evolutionary Biology Graduate Program Steering Committee
- 2015 Faculty participant, Barrett Honors Event for SOLS student
- 2015 Moderator, SOLS Spark program (welcome to incoming SOLS majors)
- 2015 Participant, SOLS New Student Orientation Lunch: May 29, June 11, June 15, July 1
- 2015 Guest lecturer, BioBridge (Head start program for Biology majors)
- 2014 Faculty participant, Barrett Honors Event for SOLS student
- 2014-2015 Member, Curriculum Reform Committee

Other University Service

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

ORGANIZATIONS & AFFILIATIONS

- 2016-present American Genetic Association
- 2015-present International Primatological Society
- 2015-present International Society for Evolutionary Medicine and Public Health
- 2012-present American Society of Human Genetics
- 2007-present Society for Molecular Biology and Evolution

2006-present Society for the Study of Evolution
inducted 2002 Pi Mu Epsilon: Honorary National Mathematics Society

PROFESSIONAL DEVELOPMENT

Mar 2016 "CV preparation for Tenure and Promotion" by CLAS, ASU
Apr 2015 "Preparing for the Tenure Review" by CLAS, ASU
Apr 2015 "Lunch with the Dean" by CLAS, ASU
Apr 2015 "Developing a Three-Year Plan" by CLAS, ASU
Feb 2015 "Jumping into the Mix: How to Tackle Grant or Fellowship Proposals" by CLAS, ASU
Nov 2014 "Article Driven Research" by CLAS, ASU
Nov 2014 "Lunch with the Dean" by CLAS, ASU
Nov 2014 "What I Wish I Knew Then: Advice from Seasoned Colleagues" by CLAS, ASU
Oct 2014 "Writing & Designing NSF Proposals" by Grant Training Center
Sep 2014 "OKED New Faculty Workshop" by Knowledge Enterprise Development, ASU
Sep 2014 "Prepping for Class at ASU" by CLAS, ASU
Sep 2014 "Understanding ASU and the Culture of your Department" by CLAS, ASU
Sep 2014 "Writing & Designing NIH Proposals" by Grant Training Center

SCIENCE OUTREACH AND ENGAGEMENT

Ongoing **Science communication**, Regular contributor at [Ask a Biologist](#), ASU.
Podcast interview: <https://askbiologist.asu.edu/explore/monster-dna>.
Routine response to questions from K-12 students.

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

Ongoing **March Mammals Madness**, Biology & ecology outreach using fake mammal battles
Mar 2017, Wilson Sayres and Stone shared genetics facts; MWS narrated a battle.
Mar 2016, Wilson Sayres and Stone Lab compiled and shared genetics information

Ongoing **SACNAS: Advancing Chicano/Hispanic and Native Americans in Science**
Feb 2017, Graduate School Panelist
Jan 2016, Introduction To Command Line Lesson
Nov 2015, Inspiring Science Career Paths Panelist

Ongoing **Night of the Open Door organizer/participant, Arizona State University**,
Feb 2017, Ran two hours of narrated mammal battles for March Mammals Madness booth. Approximately 15,000 members of the general public attended.
Feb 2016, Developed & implemented hands-on DNA extraction for approximately 10,000 members of the general public:
<http://www.wilsonsayreslab.org/blog/2016/3/17/hzp6ve4a7d56mpzg7obagpisba7c2a>
Feb 2015, Developed & implemented hands-on dog genetics and phylogenetic activities for approximately 5,000 members of the general public.

Ongoing **ASU School of Life Sciences Homecoming Booth**,
Oct 2016, Extracting Banana DNA; More than 1000 visitors
Sep 2015, Vaccine awareness. *Wilson Sayres lab members: Jacinda Garcia, Ethan Bate* and Groovy science: physics and chemistry behind lava lamps. *Wilson Sayres lab members: Maggie Walters*; 800-1000 visitors.

- Ongoing* **Science Panelists at Phoenix ComiCon, Phoenix AZ (over 6400 attendees).**
 Jun 2016.
X-men, mutations, and you (113 people) – M. Wilson Sayres, K. Olney
Dragon Balls: The Science of Reproduction (42 people) – M. Wilson Sayres
Shiny and Chrome: The Science of Mad Max - K. Olney
Letter to the Gene Editor: Science of DNA Seq (54 people) - M. Wilson Sayres, K. Olney
Judge, Young Scientist panel, K. Olney
- May 2015
"Safe Alien Sex" (220 people) – M. Wilson Sayres
"In the Beginning" (34 people) - K Olney, S Rupp
"It's Not a Debate: Evolution, Vaccines, and GMOs" (80 people) - K Olney, S Rupp
- Mar 2017 **CompuGirls camp mentors**, Wilson Sayres lab trainees served as mentors for 13-17 year old girls to recruit to computing careers (Taravella, Valverde-Vesling)
- Jun 2016 **Mathematical and Theoretical Biology Institute (MTBI) presenter**, Program to increase the number of underrepresented minorities in math and sciences.
- May 2016 **I'm A Scientist USA participant and winner**, Online public science engagement with students: <http://heliuma16.imascientist.us/profile/melissasayres/>.
- Apr 2016 **Go Bananas for DNA: National DNA Day activity**, Extracting Banana DNA at ASU science library: <http://www.wilsonsayreslab.org/blog/2016/4/18/go-bananas-for-dna>.
- Apr 2016 **GirlTalk.org, presentation and discussion.** Scientific career opportunities discussion with Nepalese orphan girls (www.nepalorphanshome.org).
- Feb 2016 **Middle School Science Fair Judge, Self Development Academy, Mesa, AZ**, 9 lab members: <http://www.wilsonsayreslab.org/blog/2016/3/4/judging-science-fair-projects>
- 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
- Mar 2015 **Communicating the relevance of human evolution**, Invited participant in NESCent working group.
- 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**
- 2009-2011 **Women in the Sciences and Engineering Internal Advisory Board member**
- 2009 **WISE Week Day Camp Workshop Volunteer**, "Engineering: Designing Possibilities"

2008-2009	Bioinformatics and Genomics Research Club Coordinator , Initiated and organized monthly graduate student research presentations.
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.
2008	WISE Week Day Camp Workshop Coordinator , “Dragon Genetics” for 12 th grade
2008-2010	Inside the Scientist’s Studio coordinator , GWIS, Penn State University
2007-2010	Graduate Women in Science Voices conference committee member , 2009-10 chair
2007	WISE Week Day Camp Program Assistant , Women in the Sciences and Engineering
2007-2009	Graduate Women in Science, Nu chapter president
2007-2009	Commission for Women, Marketing committee chair , co-chair, Penn State University
2006-2007	Graduate Women in Science, Nu chapter vice president

TEACHING AT ARIZONA STATE UNIVERSITY

Courses Developed/Primary Instructor

Research Areas of Evolution (EVO 610): (1 credit; required for Evolutionary Biology grad students)

Overview of research areas in Evolution.

Spring 2017 (10 students): 1.5 out of 5 course (1 high)

Fall 2016 (5 students): 1.7 out of 5 course (1 high)

Computing for Research (BIO/EVO/MCB 598): (1 credit; elective for grad students)

Hands-on introduction to computing. Each session also open to the ASU community , in collaboration with Research Computing.

Fall 2016 (7 students enrolled; routinely 20-30 present): 1.7 out of 5 (1 high)

Research Computing Brown Bag (BIO/EVO/MCB 591): (1 credit; elective for grad students)

Seminar on computing across disciplines at Arizona State University. Each session also open to the ASU community, in collaboration with Research Computing.

Fall 2016 (3 students; routinely 12-15 in attendance): 1.3 out of 5 (1 high)

Decoding Sex (BIO 494/BIO 598): (3 credits; undergraduate/graduate elective)

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.

Fall 2015 (17 students): 1.6 out of 5 (1 high; Dept-wide average is 1.9)

Life Sciences Career Paths Recitation (BIO 189): (5 lectures; required for undergraduate majors)

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.

Fall 2015 (19 students): No instructor evaluations

Evolution (BIO 345) & Honors: (3 credits; required for undergraduate majors)

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. For Honors students, I meet separately in an extra recitation session, to read/discuss a book, including a written component.

Spring 2017 (384 students): 2.2 out of 5 for course, 1.5 for instructor (1 high)

Spring 2016 (340 students): 1.7 out of 5 for course, 1.4 for instructor (1 high)

Spring 2015 (322 students): 1.9 out of 5 for course, 1.7 for instructor (1 high; Dept-wide average is 1.9)

Reading and Conference (BIO 590) (3 credits; undergraduate elective)

Supervised reading and research in biology.

Summer 2015 (1 student): No instructor evaluations

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

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

Fall 2014-present (15 students): No instructor evaluations

Guest Lectures

Apr 2017	Advanced Molecular and Cellular Biology II (MCB 556): Guest Lecture (1) – “Plant and animal sex chromosome evolution.”
Sep 2016	Principles of Evolution (EVO 601): Guest Lecture (1) – “In the absence of recombination”
Sep 2016	Human Genetics (ASM/BIO 546): Guest Lectures (2) – “Human population genetics” & “Tests of selection”
Apr 2016	Advanced Molecular and Cellular Biology II (MCB 556): Guest Lecture (1) – “Plant and animal sex chromosome evolution.”
Feb 2016	Research Topics in Evolution (EVO 610): Guest Lecture (1) – “Evolution of sex determination mechanisms.”
Oct 2015	Life Sciences Career Paths (BIO 189): Guest Lectures (2) – “Disciplines in the life sciences, career paths, courses and research opportunities: learn to code.”
Sep 2015	NSF GRF Writing Course (BIO 598): Guest Lecture (1) – “Evaluating NSF graduate fellowships”
Oct 2014	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”
Nov 2014	Human Genetics (ASM/BIO 546): Guest Lecture (1) – “Adaptive Evolution”

TEACHING EXPERIENCE PRIOR TO ARIZONA STATE UNIVERSITY

University of California-Berkeley

Fall 2013	Integrative Biology Honors Research Project, Primary Research Mentor
Fall 2013	Comparative Literature R1B: Misplaced Identities, Guest Lecture, “Scientific Writing”
Fall 2013	Bioengineering Undergraduate Design Research, Primary Research Mentor
Spring 2013	Statistical Genomics, Guest Lecture, “Bioinformatics Methods & Accessing Data”

Berkeley High School, Guest Lectures

Spring '12,'13 Introduction to phylogenetic interpretation and analysis.

The Pennsylvania State University

Jun 2010 Introduction to Health and Human Sexuality, Invited Lecturer – “Comparative Sexuality”
Apr 2010 Molecular Evolution, Guest Lecturer – “Male Mutation Bias”
Fall 2006 Calculus and Biology I, Teaching Assistant – weekly recitations, proctor/grade exams
2006-2007 Introductory Physiology, Exam Proctor

State College High School, Graduate Students as Teachers in Biotechnology

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

Creighton University

Spring 2005 Multi-variable Calculus teaching assistant
2001-2005 Mathematics department tutor for Geometry through Multivariable Calculus

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”

MENTORING

Postdoctoral Research Scientist Mentor, Arizona State University (3 trainees)

2017-present **Heini Natri, Ph.D., Center for Evolution and Medicine Fellow**
Evolution of resistance and the role of sex chromosomes in cancer.
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.

Ph.D Student Primary Advisor, Arizona State University (3 current, 4 total)

- 2017-present **Ph.D. Thesis Advisor, Imani Sharpe**
Life history trait evolution and genetic evolution
- 2016-present **Ph.D. Thesis Advisor, Kimberly Olney**
Allele-specific expression
- 2016-present **Ph.D. Thesis Advisor, Angela Taravella**
Human genetic variation
- 2015-2016 **Ph.D. Thesis Advisor, Hien Vu**
Molecular evolution of sex-determining genes across vertebrates.

M.S. Student Primary Advisor, Arizona State University (2 current, 3 total)

- 2017-present **M.S. Thesis Advisor, Avery Underwood**
Biased allele-expression in *Nasonia jewel* wasps
- 2016-present **M.S. Thesis Advisor, Lidia Peon**
Genetic counseling
- 2014-2016 **M.S. Thesis Advisor, Shawn Rupp, graduated December 2016**
Squamate sex chromosome evolution and dosage compensation.

Graduate Student Committee Member (6 current; 8 total)

- 2017-present **M.S. Thesis Committee Member, Stevie Winingear, ASU**
Ancient human DNA in Tierra del Fuego.
- 2017-present **Ph.D. Thesis Committee Member, Adam Orr, ASU**
Modeling NGS error, and studying error correction.
- 2016-present **Ph.D. Thesis Committee Member, Kevin Klicki, ASU**
Microbiology research.
- 2016-present **Ph.D. Thesis Committee Member, Adrienne H. Smith, ASU**
Transcriptome variation across the human brain.
- 2016-present **Ph.D. Thesis Committee Member, Tanya Phung, UCLA**
Dog sex chromosome population genetics.
- 2016-present **Ph.D. Thesis Committee Member, John Cornelius, ASU**
Genomics and bioinformatics across squamates.
- 2015-2016 **Ph.D. Thesis Committee Member, Diego Chowell, ASU defended July 2016**
Mathematical model of tumor heterogeneity.
- 2015-2016 **Ph.D. Thesis Committee Member, Tara Furstenu, ASU, defended May 2016**
Population genetics modeling, self-incompatibility, and isolation-by-distance.

Barrett Honors Undergraduate Thesis director, Arizona State University (4 current; 9 total)

- Current **Thesis Director, Ndey Bassin Jobe**, Space and Earth Science major
Evolution of X and Y recombination
- Current **Thesis Director, Austin Evanovich**, Biological Sciences major
Gene expression variation in the human brain
- Current **Thesis Director, Ariel Baber**, Biological Sciences major
Sex-biased gene expression
- Current **Thesis Director, Lovender Phiri**, Biological Sciences major

- Gene expression evolution
- 2017 **Thesis Director, Darius Gallegos**, Biological Sciences major
Career options in the Life Sciences
- 2017 **Thesis Director, Sarah Brotman**, Biological Sciences major
X-inactivation across the human brain
- 2017 **Thesis Director, Val Deluca**, Biological Sciences major
Monitoring cancer's rate of adaptation
- 2016 **Thesis Director, Daniel Cotter**, Biological Sciences major
Genetic diversity across the pseudoautosomal boundary varies across human populations
- 2015 **Thesis Director, Kara Schaffer**, Biochemistry major
Evolutionary perspective suggests candidate genes for Turner Syndrome phenotype

Barrett Honors Undergraduate Thesis committee member, Arizona State University (6 total)

- 2017 **Second reader, Abigail Howell**, Biological Sciences major
An analysis of the benchmark test lzbench for open-source compressors
- 2016 **Second reader, Diana Arroyo**, Biological Sciences major
Mammalian genome variation
- 2016 **Second reader, Ardesher Aghili**, Molecular Biology and Biotechnology major
A network analysis of SNP association in the antigen presentation pathway of hepatocellular carcinoma
- 2015 **Second reader, Brendan Fries**, Biological Sciences major
Analyzing the spread of the Chikungunya virus in the Caribbean 2013-2015
- 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*)

Undergraduate Research Mentor (13 current; 34 former, shown is the last year the student was in lab)

- Current:** Daniel Cotter (Presented poster of research findings (x2); authored manuscript); Selena Cortez; Ariel Baber; Selena Cortez; Brock Williams; Sarah Bearman; Amanda Wolf; Jocelyn Andrews; David Levy; Ephrance Peninah Kalungi (SOLUR SRE funded); Ndey Bassin Jobe; Austin Evanovich; Lovender Phiri
- 2016-2017 (6)** ASU: **1.** Sarah Brotman, (Presented poster of research findings (x2) SOLUR funded; CLAS Summer REU student, authored manuscript); **2.** Sam Daly (SOLUR funded; CLAS USE; IMSD funded, Presented poster of research findings); **3.** Valeria Valverde-Vesling (IMSD funded); **4.** Afeefa Rashid; **5.** Mostafa Adina; **6.** Christopher Sleiman.
- 2015-2016 (11)** ASU: **1.** Carlos Meza-Torres; **2.** Kirk Flamm; **3.** Victoria Reid; **4.** Kellie Kodoma; **5.** Parker Shea; **6.** Lidia Peon (Joined MS program); **7.** Jacinda Garcia; **8.** Margaret Walters; **9.** Ashley Amidan (Presented poster of research findings); **10.** Reena Marie Ygot; **11.** Ethan Bate;
- 2014-2015 (12)** ASU: **1.** Jada Wang (Presented poster of research findings); **2.** Kara Schaffer (Supported by Bidstrup Fellowship); **3.** Marshall Styers (Presented poster of research findings); **4.** Melinda Jenner (Presented poster of research findings); **5.** David Barclay; **6.** Joy Cruz; **7.** Caroline Erickson; **8.** Brittany Hammis; **9.** William Martelly; **10.** Alexandra Marinello; **11.** Christopher Negrich; **12.** Jaclyn Williams

2013-2014 (3) UC Berkeley: **1.** Michelle Senar (Student accepted full time position as Associate Software Engineer at BrightSpace, 2015); **2.** Logan Curtis-Whitchurch (Student accepted to University of Louisville Medical School, 2015); **3.** Kellie Ottoboni (Student accepted for PhD program at UC Berkeley, 2015)

2012-2013 (2) UC Berkeley: **1.** Kevin Luo (Preliminary data for grant generated. Student accepted to computer science graduate program at Stanford, 2015); **2.** Paulina Tsai (Manuscript accepted at Berkeley Scientific Journal. Student accepted full time position as Program Coordinator at Palo Alto Medical Center, 2015)

Graduate Teaching Assistant Mentor, Arizona State University

Spring 2017 BIO 345: Organic Evolution (4 TAs)
Neil Hillis, Katherine Huxster, Heather Rich, Angela Taravella

Spring 2016 BIO 345: Organic Evolution (4 TAs)
Andreina Castillo, Katherine Huxster, Bich Vu, Andrew Johnston

Spring 2015 BIO 345: Organic Evolution (4 TAs)
Tanvi Honap, Andreina Castillo, Katherine Huxster, Susanne Daly

Other Formal Mentoring

2015-2016 **Pia Whai-Singh**, High school student, BASIS Ahwatukee High School

2015-2016 **Kimberly Olney**, Post-Baccalaureate

2014, 2015 *ASHG Trainee Networking Mentor*. Meet with graduate students and postdoctoral researchers to discuss research, networking and future career options.

2006-2010 **Integrative Biosciences, Graduate student mentor (9 students)**. Met routinely with incoming graduate students to acclimate them to graduate life and assist with questions about the program.

2010 **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.

2009-2010 **Lydia Krasilnikova**. High school student, Student accepted into MIT for undergraduate Mathematics major

INVITED SEMINARS (40 total)

40. **Seminar**, Biology Dept, University of Florida, Gainesville, FL, *Oct 2017*

39. **Seminar**, Ecology, Evol, Genetics & Genomics, University of Rochester, Rochester, NY, *Sep 2017*

38. **Seminar**, Dept of Genetics, Harvard Medical School, Boston, MA, *Sep 2017*

37. **Seminar**, Dept of Biology, UC Riverside, Riverside, CA, *May 2017*

36. **Seminar**, Dept of Ecology and Evol Biology, University of Toronto, Toronto, CANADA, *Jan 2017*

35. **Seminar**, Human Genetics (Genetics & Genomics) series, UCLA, Los Angeles, CA, *Nov 2016*

34. **Seminar**, Ecology, Evol & Environmental Biol, Columbia University, New York City, NY, *Oct 2016*

33. **Seminar**, Center for the Study of Human Origins colloquium, NYU, New York City, NY

32. **Seminar**, Dept of Human Genetics, Salt Lake City, UT, *Oct 2016*

31. **Seminar**, Evolutionary, Developmental & Population Genetics series, UC-Davis, Davis, CA, *Apr 2016*

30. **Seminar**, Genetics, Genomics & Systems Biology, University of Chicago, Chicago, IL, *Feb 2016*
29. **Seminar**, Dept of Ecology and Evolutionary Biology, University of Arizona, Tuscon, AZ, *Jan 2016*
28. **Seminar**, The School of Plant Sciences, University of Arizona, Tuscon, AZ, *Sept 2015*
27. **Seminar**, Department of Biology and Biochemistry, University of Houston, Houston, TX, *Sept 2015*
26. **Seminar**, Mol & Cellular Biol Graduate Colloquium, Arizona State University, Tempe, AZ, *Oct 2014*
25. **Seminar**, Center for Evolution and Medicine, Arizona State University, Tempe, AZ, *Nov 2014*
24. **Seminar**, Center for Personalized Diagnostics, The Biodesign Institute, ASU, Tempe, AZ, *Oct 2014*
23. **Seminar**, Translational Genomics Research Institute, Phoenix, AZ, *Aug 2014*
22. **Seminar**, Center on Comp, Evol & Human Genomics, Stanford University, Stanford, CA, *Mar 2014*
21. **Seminar**, Department of Biological Sciences, Louisiana State University, Baton Rouge, LA, *Mar 2014*
20. **Seminar**, School of Integrative Biology, The University of Illinois, Campaign-Urbana, IL, *Mar 2014*
19. **Seminar**, Department of Biological Sciences, The University of Alabama, Tuscaloosa, AL, *Feb 2014*
18. **Seminar**, School of Life Sciences, Arizona State University, Tempe, AZ, *Feb 2014*
17. **Seminar**, Biology Department, Clark University, Worcester, MA, *Feb 2014*
16. **Seminar**, Biological Sciences, Auburn University, Auburn, AL, *Feb 2014*
15. **Seminar**, Dept of Biological Statistics & Comp Biology, Cornell University, Ithaca, NY, *Feb 2014*
14. **Seminar**, Dept of Biology and Biotech, Worcester Polytechnic Institute, Worcester, MA, *Feb 2014*
13. **Seminar**, Department of Mathematics, Creighton University, Omaha, NE, *Nov 2013*
12. **Seminar**, Dept of Comp Med & Bioinf, Univ of Michigan Medical School, Ann Arbor, MI, *Nov 2013*
11. **Seminar**, Department of Biology, The University of Texas-Tyler, Tyler, TX, *Nov 2013*
10. **Seminar**, Department of Biology, The University of Kentucky, Lexington, KY, *Nov 2013*
9. **Seminar**, Dept of Ecology & Evolutionary Biology, University of Kansas, Lawrence, KS, *Sep 2013*
8. **Seminar**, Center for Medical Genomics, Pennsylvania State University, State College, PA, *Sep 2013*
7. **Seminar**, Biology Department, University of Nebraska-Lincoln. Lincoln, NE, *Nov 2012*
6. **Seminar**, Mathematics department at the University of North Texas. Denton, TX, *Oct 2012*
5. **Seminar**, Biology Department at Creighton University. Omaha, NE, *Nov 2012*
4. **Seminar**, Ecology & Evol Colloquium at San Francisco State University. San Francisco, CA, *Oct 2011*
3. **Seminar**, Center for Theoretical & Evolutionary Genetics, UC-Berkeley. Berkeley, CA, *Oct 2010*
2. **Seminar**, Ecology and Evolution seminar at The University of Pittsburgh. Pittsburgh, PA, *Sep 2009*
1. **Seminar**, Bioinformatics Research Center at Aarhus University. Aarhus, Denmark, *Sep 2008*

PLENARY/INVITED CONF TALKS (11 total: 4 Plenary; 6 Conferences; 1 Sponsored)

11. **Invited Conference plenary**, 2017 SW Reg Society for Developmental Biol, Houston, TX, *Oct 2017*
10. **Invited Conference plenary**, 2017 Data Intensive Biology Summer Institute, Davis, CA, *Jun 2017*
9. **Invited Conference lecture**, Society for the Study of Evolution, Portland, OR, *Jun 2017*
8. **Invited Conference plenary**, VanBUG: Bioinformatics User Group, Vancouver, CANADA, *May 2017*
7. **Invited Conference lecture**, Experimental Biology, Chicago, IL, *Apr 2017*
6. **Plenary Junior Investigator**, Center for Medical Genomics Retreat, State College, PA, *May 2016*
5. **Sponsored Lecture**, Mindlin Sponsored Lecture, University of Washington, Seattle, WA, *Feb 2016*
4. **Plenary lecture**, BioConference Live 2015 Genetics and Genomics Conference, *May 2015*
3. **Invited Conference**, The American Society of Human Genetics Meeting, San Diego, CA, *Oct 2014*
2. **Invited Conference**, International Society for Evol, Med, & Public Health, Tempe, AZ, *Mar 2015*
1. **Plenary lecture**, Univ of Nebraska, Lincoln, 8th Annual Regional Math. Conf. Lincoln, NE, *Oct 2006*

PUBLIC LECTURES (9 Total)

9. **Public lecture**, Wiseguise, Scottsdale, AZ, *Apr 2017*
8. **Public lecture**, Secular Day at the Capitol, Arizona State Capitol, Phoenix, AZ, *Mar 2017*
7. **Public lecture**, Salon of the Senses, Paradise Valley, AZ, *Mar 2017*
6. **Public lecture**, Arizona State Legislature, Arizona State Capitol, Phoenix, AZ, *Mar 2017*
5. **Public lecture**, Data Science Phoenix, Tempe, AZ, *Jul 2016*
4. **Public lecture**, hosted by Salon of the Senses & Biodesign Institute, Tempe, AZ, *July 2015*
3. **Public lecture**, hosted by the Bay Area Skeptics, Berkeley, CA, *Aug 2013*
2. **Public lecture**, hosted by Graduate Women in Science - Omicron Chapter, Bethesda, MD, *Jun 2013*
1. **Public audience**, hosted at Creighton University. Omaha, NE *Oct 2007*

CONTRIBUTED PRESENTATIONS (25 total: 5 by trainees; 20 as primary presenter)

- (*presenter; Lab trainees: ^u undergraduate; ^g graduate; ^p postdoctoral; ^t technician/programmer)
25. Taravella A^g, **Wilson Sayres M.** The effects of low coverage sequence data on demographic reconstruction. **Contributed talk.** Society for the Study of Evolution. Portland, OR, *Jun 2017.*
 24. **Wilson Sayres MA***, Chowell D^g, Napier J, Gupta R, Faiss L and Maley C. Modeling the subclonal evolution of cancer cell populations. **Platform presentation.** American Society for Human Genetics. Vancouver, BC, CANADA, *Oct 2016.*
 23. Narang P^p and **Wilson Sayres MA***. Variable X/A divergence and male-mutation bias near and far from genes in great apes. **Selected talk.** International Society of Primatologists, Chicago, IL, *Aug 2016.*
 22. **Wilson Sayres MA***. Population history and patterns of sex-biased evolution. **Selected talk.** International Society for Evolutionary Medicine and Public Health, Raleigh-Durham, NC, *June 2016.*
 21. Tollis M*, Hutchins E, Stapley J, Eckalbar WL, Rupp SM^g, Maayan I, **Wilson Sayres MA**, Fisher R and Kusumi K. Multiple genomes reveal accelerated evolution in conserved pathways during anolis lizard adaptive radiations. **Selected Talk for Spotlight Session.** Society for the Study of Evolution. Austin, TX, USA, *June 2016.*
 20. Olney K^{*t}, Skotte L, Nielsen R and **Wilson Sayres MA**. Accurately inferring imbalanced allele expression using logistic regression models. **Selected Talk.** Southern California Evolutionary Genetics and Genomics Meeting. Los Angeles, CA, USA, *February 2016.*
 19. Chowell D^{*g}, 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^{*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^{*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, Chairomonte 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, Chairomonte 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 (58 total: 47 by lab trainees; 8 as primary presenter)

(*presenter; Lab trainees: ^u undergraduate; ^g graduate; ^p postdoctoral; ^t technician/programmer)

58. Ozga A^{*p}, Nieves-Colon M, Webster T^p, **Wilson Sayres M**, Nockerts R, Wilson M, Gilby I, Pusey A, and Stone A. Short term reduction in *Pan troglodytes schweinfurthii* genetic diversity at Gombe National Park. SMBE. Austin, TX, USA, *July 2017*.
57. Phung T^{*g}, Marsden C, Wayne R, Lohmueller K, **Wilson Sayres M**. Domestication of dogs has impacted genetic diversity on the X chromosome. Austin, TX, USA, *July 2017*.

56. Olney K^{*g}, Brotman S^u, **Wilson Sayres M**. Standard mapping protocols misestimate sex-linked gene expression. SMBE. Austin, TX, USA, *July 2017*.
55. Olney KC^{*g}, Nyer DB, **Wilson Sayres M**, and Haynes K. Synthetic chromatin protein to regulate gene expression in breast cancer cells. Molecular, Cellular and Tissue Bioengineering Symposium. Tempe, AZ, USA, *April 2017*.
54. Valverde-Vesling V^{*u}, Olney K^g, **Wilson Sayres M**. Sex-biased gene expression in the human placenta. ASU School of Life Sciences Undergraduate Research Poster Symposium. Tempe, AZ, USA, *April 2017*.
53. Brotman S^{*u}, Olney K^g, **Wilson Sayres M**. Standard mapping protocols misestimate sex-linked gene expression. ASU School of Life Sciences Undergraduate Research Poster Symposium. Tempe, AZ, USA, *April 2017*.
52. Daly S^{*u}, Narang P^p, Amidan A^u and **Wilson Sayres MA**. Measuring mal mutation bias in Drosophila. ASU School of Life Sciences Undergraduate Research Poster Symposium. Tempe, AZ, USA, *April 2017*.
51. Barrett M*, Lenkiewicz E, Malasi S, Webster T^p, **Wilson Sayres MA**, McCullough AE, Anderson KS and Pockaj BA. Clonal heterogeneity in breast cancer and its impacts on clinical biomarkers. San Antonio Breast Cancers Symposium. San Antonio, TX, USA, *Dec 2016*.
50. Olney K^{*g}, Skotte L, Nielsen R and **Wilson Sayres MA**. Accurately inferring imbalanced allele expression using logistic regression models. EvSex16, Tempe, AZ, *Nov 2016*.
49. Cotter D^{*u}, Webster T^p, and **Wilson Sayres MA**. Diversity across the pseudoautosomal boundary varies across human populations. EvSex16, Tempe, AZ, *Nov 2016*.
48. Brotman S^{*u}, and **Wilson Sayres MA**. Genes that are routinely subject to inactivation and genes that routinely escape inactivation are highly expressed, and are candidates in Turner syndrome phenotype. EvSex16, Tempe, AZ, *Nov 2016*.
47. Narang P^{*p}, Walters JR, Challis RJ, Kumar S, and Wilson Sayres MA. Estimating male mutation bias in Lepidoptera. EvSex16, Tempe, AZ, *Nov 2016*.
46. Daly S^{*u}, Amidan A^u and **Wilson Sayres MA**. Male mutation bias in Drosophila. EvSex16, Tempe, AZ, *Nov 2016*.
45. Valverde-Vesling V^{*u}, Olney K^g, **Wilson Sayres M**. Sex-biased gene expression in the human placenta. EvSex16, Tempe, AZ, *Nov 2016*.
44. Webster TH^{*p}, Phung T, Grande B, Karlins E, Richmond P, Couse M, Whitford W, and **Wilson Sayres MA**. XYalign: Inferring and correcting for sex chromosome ploidy in next-generation sequencing data. EvSex16, Tempe, AZ, *Nov 2016*.
43. Brotman S^{*u}, and **Wilson Sayres MA**. Genes that are routinely subject to inactivation and genes that routinely escape inactivation are highly expressed, and are candidates in Turner syndrome phenotype. American Society for Human Genetics. Vancouver, BC, CANADA, *Oct 2016*.
42. Cotter D^{*u}, Webster T^p, and **Wilson Sayres MA**. Diversity across the pseudoautosomal boundary varies across human populations. American Society for Human Genetics. Vancouver, BC, CANADA, *Oct 2016*.
41. Valverde-Vesling V^{*u}, Webster T^p, and **Wilson Sayres MA**. Modeling effects of time since human bottleneck on genetic diversity. SACNAS. Long Beach, CA, USA, *Oct 2016*.
40. Narang P^{*p}, Anderson KS, Barrett MT, Pockaj BA and **Wilson Sayres MA**. Identifying the neoepitope landscape of triple negative breast cancer. Advances in Genome Biology and Technology Precision Health Meeting. Scottsdale, AZ, USA, *Sep 2016*.
39. Rupp S^{*g} and **Wilson Sayres MA**. Characterizing sex-biased gene expression in the green anole. Arizona Bioindustry Association Expo, Phoenix, AZ, USA, *April 2015*.
38. Stone AC*, Ozga, AT, Nieves-Colon MA, Nockerts R, Webster T^p, **Wilson Sayres MA**, Wilson M, Gilby I, Pusey A and Marean C. The preservation of DNA from bone, dentin, and calculus from Gombe National Park and Pinnacle Point in Africa. International Symposium on Biomolecular Archaeology. Oxford, UK, *Sep 2016*.

37. Grizante MB^{*P}, DeNardo DF, Kohlsdorf T, **Wilson Sayres MA**, Fisher RE and Kusumi K. Evolution of the maintenance and loss of regeneration in lizards: comparative analysis of functional anatomy and genetic mechanisms. Society for Developmental Biology. Boston, MA, USA, *Aug 2016*.
36. Boddy A^{*P}, Fortunata A, **Wilson Sayres MA** and Aktipis A. Fetal microchimerism and maternal health: A review and evolutionary analysis of cooperation and conflict beyond the womb. Human Behavior and Evolution Society. Vancouver, BC, CANADA, *July 2016*.
35. Rupp S^{*g}, Webster T^p, Olney K^t, Hutchins E, Kusumi K and **Wilson Sayres MA**. Characterizing sex-biased gene expression in the green anole. Society for Molecular Biology and Evolution. Gold Coast, Queensland, CANADA, *July 2016*.
34. Berger S^{*u}, Clark T^u, **Wilson Sayres MA** and Mead L. A primer for population genomics. International Society for Evolutionary Medicine and Public Health. Durham, NC, USA, *June 2016*.
33. Boddy A^{*P}, Fortunata A, **Wilson Sayres MA** and Aktipis A. Fetal microchimerism and maternal health: A review and evolutionary analysis of cooperation and conflict beyond the womb. International Society for Evolutionary Medicine and Public Health. Durham, NC, USA, *June 2016*.
32. Olney K^{*t}, Skotte L, Nielsen R and **Wilson Sayres MA**. Accurately inferring imbalanced allele expression using logistic regression models. International Society for Evolutionary Medicine and Public Health. Durham, NC, USA, *June 2016*.
31. Clark T^{*u}, Berger S^u, **Wilson Sayres MA** and Mead L. A primer for population genomics. Society for the Study of Evolution. Austin, TX, USA, *June 2016*.
30. Chowell D^{*g}, Napier J, Gupta R, Faiss L, and **Wilson Sayres MA**. The extent of intratumor subclonal variation: a computational modeling analysis. Systems Approaches to Cancer Biology. Woods Hole, MA, USA, *April 2016*.
29. DeLuca V^{*u}, Taili M, Zismann V, Yi H, Sereduk C, Poorman K, **Wilson Sayres MA**, Maley C, Sekulic A, Trent J, and Hendricks W. Impact of vemurafenib concentration on adaptation rate in a BRAF^{V600E} melanoma cell line: A proof-of-principle experiment to monitor a cancer's rate of adaptation to targeted therapy. ASU School of Life Sciences Undergraduate Research Poster Symposium. Tempe, AZ, USA, *April 2016*.
28. Daly S^{*u}, Amidan A^{*u} and **Wilson Sayres MA**. Male mutation bias in Drosophila. ASU School of Life Sciences Undergraduate Research Poster Symposium. Tempe, AZ, USA, *April 2016*.
27. Valverde-Vesling V^{*u}, Webster T^p and **Wilson Sayres MA**. Modeling effects of time since human bottleneck on genetic diversity. ASU School of Life Sciences Undergraduate Research Poster Symposium. Tempe, AZ, USA, *April 2016*.
26. Brotman S^{*u}, Cotter D^{*u} and **Wilson Sayres MA**. Genetic diversity on the human X chromosome does not support a strict pseudoautosomal boundary. ASU School of Life Sciences Undergraduate Research Poster Symposium. Tempe, AZ, USA, *April 2016*.
25. Rupp S^{*g}, Webster T^p, Olney K^t, Hutchins E, Kusumi K and **Wilson Sayres MA**. Characterizing sex-biased gene expression in the green anole. Fifth Southern California Evolutionary Genetics and Genomics meeting. Los Angeles, CA, USA, *February 2016*.
24. Brotman S^{*u}, Cotter D^{*u} and **Wilson Sayres MA**. Using diversity to measure boundaries of the pseudoautosomal regions in human sex chromosomes. Fifth Southern California Evolutionary Genetics and Genomics meeting. Los Angeles, CA, USA, *February 2016*.
23. Olney K^{*t}, Skotte L, Nielsen R and **Wilson Sayres MA**. Accurately inferring imbalanced allele expression using logistic regression models. American Society of Human Genetics. Baltimore, MD, USA, *October 2015*.
22. Wang J^{*u}, Styers M^u and **Wilson Sayres MA**. Parent-of-origin effects in people with Turner syndrome. AZ BioIndustry Association (AZBio). Phoenix, AZ, USA, *October 2015*.
21. Olney K^{*t}, Skotte L, Nielsen R and **Wilson Sayres MA**. Accurately inferring imbalanced allele expression using logistic regression models. AZ BioIndustry Association (AZBio). Phoenix, AZ, USA, *October 2015*.

20. Boddy A^{*p}, Fortunata A, **Wilson Sayres MA** and Aktipis A. Fetal microchimerism and maternal health: A review and evolutionary analysis of cooperation and conflict beyond the womb. Personalized Medicine Conference. Tuscon, AZ, USA, *September 2015*.
19. Wang J^{*u}, Styers M^{*u} and **Wilson Sayres MA**. Parent-of-origin effects in people with Turner syndrome. ASU School of Life Sciences Undergraduate Research Poster Symposium. Tempe, AZ, USA, *April 2015*.
18. Brotman S^{*u}, Cotter D^{*u} and **Wilson Sayres MA**. Using diversity to measure boundaries of the psuedoautosomal regions in human sex chromosomes. ASU School of Life Sciences Undergraduate Research Poster Symposium. Tempe, AZ, USA, *April 2015*.
17. Vu B^{*u} and **Wilson Sayres MA**. Patterns of evolution across vertebrate sex determining genes. ASU School of Life Sciences Undergraduate Research Poster Symposium. Tempe, AZ, USA, *April 2015*.
16. Rupp S^{*u}, Olney K[†], Hutchins E, Kusumi K and **Wilson Sayres MA**. Characterizing sex-biased gene expression in the green anole. ASU School of Life Sciences Undergraduate Research Poster Symposium. Tempe, AZ, USA, *April 2015*.
15. Rupp S^{*u}, Olney K[†], Hutchins E, Kusumi K and **Wilson Sayres MA**. Characterizing sex-biased gene expression in the green anole. Arizona Bioindustry Association Expo, Phoenix, AZ, USA, *April 2015*.
14. Wang J^{*u}, Styers M^u and **Wilson Sayres MA**. Parent-of-origin effects in people with Turner syndrome. International Society for Evolution, Medicine, & Public Health. Tempe, AZ, USA, *March 2015*.
13. Jenner M^{*u}, Amidan A^{*u} and **Wilson Sayres MA**. Modeling the contrasting Neolithic lineage expansions in Europe and Africa. International Society for Evolution, Medicine, & Public Health. Tempe, AZ, USA, *March 2015*.
12. Rupp S^{*u}, Olney K[†], Hutchins E, Kusumi K and **Wilson Sayres MA**. Characterizing sex-biased gene expression in the green anole. International Society for Evolution, Medicine, & Public Health. Tempe, AZ, USA, *March 2015*.
11. Vu B^{*u} and **Wilson Sayres MA**. Patterns of evolution across vertebrate sex determining genes. International Society for Evolution, Medicine, & Public Health. Tempe, AZ, USA, *March 2015*.
10. Schaffer K^{*u} and **Wilson Sayres MA**. Evolutionary perspective suggests candidate genes for variation in Turner Syndrome phenotype. International Society for Evolution, Medicine, & Public Health. Tempe, AZ, USA, *March 2015*.
9. Brotman S^{*u}, Cotter D^{*u} and **Wilson Sayres MA**. Using diversity to measure boundaries of the psuedoautosomal regions in human sex chromosomes. International Society for Evolution, Medicine, & Public Health. Tempe, AZ, USA, *March 2015*.
8. **Wilson Sayres MA*** and Luo K^{*u}. Dating evolutionary strata on the human sex chromosomes reveals complex history of X-Y recombination suppression. Society for Molecular Biology and Evolution 2014. San Juan, Puerto Rico, *June 2014*.
7. **Wilson Sayres MA***, Shankey Pander R^g, and Azad R. Detecting evolutionary strata on the human X chromosome: Markov segmentation and clustering analysis. American Society of Human Genetics 2013. Boston, MA, USA, *October 2013*.
6. **Wilson Sayres MA***, Lohmueller K, and Nielsen R. Natural selection reduced diversity on human Y chromosomes. Society for Molecular Biology and Evolution 2014. Chicago, IL, USA, *July 2013*.
5. **Wilson Sayres MA*** and Makova KD. Learning from genetic fossils on the human Y chromosome. Society for Molecular Biology and Evolution 2012. Dublin, Ireland, *June 2012*.
4. **Wilson Sayres MA*** and Makova KD. Can features of X-linked genes predict the demise of their Y-linked homologs? 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. The Biology of Genomes. Cold Spring Harbor, NY, USA *May 2010*.

2. **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. 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. Society for Molecular Biology and Evolution 2009. Iowa City, IA, USA *June 2009*.

SCIENCE IN THE MEDIA

- 2017** Quoted in "[Did we come from pigs](#)" by Steph Yin about human genetics for The Outline.
 Interviewed on "The Science Show" with Robyn Williams in Australia: [Gila monster may reveal evolution of sex chromosomes](#).
 Featured nominee for "[BadAss women of ASU](#)"
 Interviewed about [sex and gender](#) for Idea Spermatheca by Caitlin E McDonough.
 Featured guest discussing genetics and sex on Reality Trip with Ben Fama Jr. ([Video Podcast](#)).
- 2016** Discussing [accuracy of personalized genomics](#) on ABC 15 news television.
[Arizona's Adorable Monster](#) by Ed Yong in The Atlantic.
 Expert reference for article about giraffe speciation for [Scholastic Math](#).
 Research on male mutation bias featured in [ASUNow](#).
 Research on anole speciation featured in [Anole Annals](#).
 News stories about Gila monster research project: Cronkite News Arizona PBS ([video](#));
[Career path for Dr. Wilson Sayres](#) for Ask a Biologist.
[Monster DNA](#) for Ask a Biologist.
 News stories about publication on X-Y chromosome swapping: ASU news ([news article](#)); Picked up by [17 news outlets](#).
 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](#).
 Article about ongoing research on the human X and Y, "[Human Sex Chromosomes are Sloppy DNA Swappers](#)", by Viviane Callier.
 Interviewed by Ed Yong from National Geographic as an expert about [temperature-dependent and genetic sex determination](#) in bearded dragons.
 Interviewed about my research, graduate experience, training, and academic life for the [Rock Your Research](#) podcast series.
 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** Interviewed about co-organized session, "[The X-factor of Complex Disease](#)," at ASHG
 Science featured in [Meeting report in Genome Biology](#).
 Interviewed about [bioinformatics research](#) as part of a series with notable bioinformaticians.
 Interviewed about [genomic testing](#) as new resources for Phoenix Children's Hospital.
 Interviewed about [open access publishing](#) for Open Access Week by ASU Library.
 Profiled for early career scientists on "[Breaking the \(bio\)code](#)."

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.

Breaking Bio Episode #65: "[Sex chromosomes & Math for Biologists, Dr. Melissa Wilson Sayres.](#)"

Conference on World Affairs panelist, "[56 different points on the gender spectrum.](#)"

Interviewed by Maria Armoudian on The Scholar's Circle along with Jeremy Nathans, [about the X and Y chromosomes.](#)

Interviewed about Y chromosomes by Jonathan Green of ABC (Australian Broadcasting Company) Radio National – "[Y chromosome not superfluous: new research.](#)"

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.

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

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

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