KEVIN ANDREW BIRD

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EDUCATION

2017-2022 **Ph.D** Horticulture and Ecology, Evolutionary Biology and Behavior, Michigan State University. Advisors: Patrick Edger and Robert VanBuren.

Dissertation: *Subgenome dominance and genome evolution in allopolyploids*

2012-2016 **B.S**. Biological Sciences (*Cum laude* with University Honors) University of Missouri
B.A. Philosophy (*Cum laude* with University Honors) University of Missouri

RESEARCH EXPERIENCE

2022- **Postdoctoral Research Fellow:** University of California-Davis Supervisors: Daniel J. Kliebenstein and J. Grey Monroe

2017-2022 **Graduate Research Assistant:** Michigan State University, Department of Horticulture and Ecology, Evolutionary Biology, and Behavior Program. Advisors: Patrick Edger and Robert VanBuren

2016-2017 **Fulbright fellow/visiting researcher**: VIB/Ghent University, Department of Plant Systems Biology. Advisor: Steven Maere

2015 **Research Assistant**: Cornell University, Plant Breeding and Genetics Section. Advisor: Michael Allen Gore

2013-2016 **Undergraduate Research Assistant**: University of Missouri Division of Biological Sciences. Advisor: J Chris Pires

2012-2013 **Lab Technician**: University of Missouri, Turf Grass Pathology Lab. Supervisor: Lee Miller

PUBLICATIONS

1 Monroe JG, Chaehee L, Quiroz D, Lensink M ,Oya S, Davis M, Long E, **Bird KA**, Pierce A, Zhao K, Runcie D. (2024) Convergent evolution of epigenome recruited DNA repair across the tree of life. *Biorxiv* https://doi.org/10.1101/2024.10.15.618488

2 **Bird KA**, Brock JR, Grabowski PP, Harder AM, Shu S, Barry K, Boston L, Daum C, Guo J, Lipzen A, Walstead R, Grimwood J, Schmutz J, Lu C, Comai L, McKay JK, Pires JC, Edger PP, Lovell JT, Kliebenstein DJ, (Accepted at *Genetics*) Allopolyploidy expanded gene content but not pangenomic variation in the hexaploid oilseed *Camelina sativa*. *Biorxiv*. https://doi.org/10.1101/2024.08.13.607619

3 Ricono A, Ludwig E, Casto AL, Zorich S, Joshua Sumner J, **Bird KA**, Edger PP, Hegemana AD, Gehan MA, Greenham K, (In Review at *The Plant Journal)*. Prolonged water limitation in *B. napus* restricts growth but maintains photosynthesis with accession specific, time-of-day changes in transcriptomes and glucosinolates

4 Brock JR, **Bird KA**, Platts AE, Gomez-Cano F, Gupta SK, Palos K, Railey CE, Teresi SJ, Yun Lee S, Lundback MM, Pawlowski EG, Nelson ADL, Grotewold E, Edger PP. (2024) Exploring genetic diversity, population structure, and subgenome differences in the allopolyploid Camelina sativa: Implications for future breeding and research studies. *Horticulture Research*. uhae247, https://doi.org/10.1093/hr/uhae247

5 **Bird KA**, Pires JC, VanBuren R, Xiong Z, & Edger PP. (2023).Dosage-sensitivity shapes how genes transcriptionally respond to allopolyploidy and homoeologous exchange in resynthesized *Brassica napus*. *Genetics.* 225(1). iyad114,

6 De Meyer S, Cruz DF, De Swaef T, Lootens P, De Block J, **Bird KA**, ... & Maere S. (2023). Predicting yield traits of individual field-grown *Brassica napus* plants from rosette-stage leaf gene expression. *PLOS Computational Biology,* 19(5), e1011161

7 Yim WC, Swain ML, Ma D, An H, **Bird KA**, Curdie DD, Wang S, Ham HD, Luzuriaga-Neira A, Kirkwood JS, Hur M, Solomon JKQ, Harper JF, Kosma DK, Alvarez-Ponce D, Cushman JC, Edger PP, Mason AS, Pires JC, Tang H, Zhang X. (2022) The final piece of the Triangle of U: Evolution of the tetraploid Brassica carinata genome, *The Plant Cell*, 2022;, koac249, https://doi.org/10.1093/plcell/koac249

8 **Bird KA***, MacKenzie Jacobs M*,,Sebolt A, Rhoades K, Alger EI, Colle M, Alekman ML, Bies PK, Cario AJ, Chigurupat RS, Collazo DR, Finley S, Garland B, Hein KM, Hicks J, Hillenberg AR, Kado LI, Kilian VR, Longueuil PF, Mahesha V, Mervak C, Munsell K,Patel RM, Peters NML, Steffes MO, Suryadevara S, Thummalapally A, Urban G, Walia AK, Wirsing TB, McKain MR, Iezzoni AF, Edger PP. (2022) *Parental origins of the cultivated tetraploid sour cherry (Prunus cerasus L.). Plants, People, Planet, 4(5), 444– 450*

9 **Bird KA**, Hardigan MA, Ragsdale AP, Knapp SJ, VanBuren R, and Edger PP. (2021). Diversification, spread, and admixture of octoploid strawberry in the Western Hemisphere. *American Journal of Botany* 108(11): 2269– 2281.

10 McAlvay AC, Ragsdale AP, Mabry ME, Qi X, **Bird KA**, Velasco P, An H, Pires JC, Emshwiller E, Brassica Rapa domestication: untangling wild and feral forms and convergence of crop morphotypes, *Molecular Biology and Evolution*, 2021;, msab108,

11 Hardigan MA, Lorant A, Pincot DDA, Feldmann MJ , Famula RA , Acharya CB , Lee S, Verma S , Vance M Whitaker VM, Bassil N, Zurn J, Cole GS , **Bird KA** , Edger PP , and Knapp SJ (2021) Unraveling the Complex Hybrid Ancestry and Domestication History of Cultivated Strawberry. *Molecular Biology and Evolution*

12 **Bird KA**, Niederhuth CE, Ou S, Gehan M, Pires JC, Xiong Z, VanBuren R and Edger PP (2021), Replaying the evolutionary tape to investigate subgenome dominance in allopolyploid *Brassica napus*. *New Phytologist*

13 Hardigan MA, Feldmann MJ, Lorant A, **Bird KA**, Famula R, Acharya C, ... & Knapp SJ (2020). Genome Synteny Has Been Conserved Among the Octoploid Progenitors of Cultivated Strawberry Over Millions of Years of Evolution. *Frontiers in Plant Science*, *10*, 1789.400776

14 Turner-Hissong SD, **Bird KA**, Lipka AE, King EG, Beissinger TM, & Angelovici R. (2020). Genomic prediction informed by biological processes expands our understanding of the genetic architecture underlying free amino acid traits in dry Arabidopsis seeds. *G3: Genes, Genomes, Genetics*, 10(11), 4227-4239.

15 Barbey, C, Lee, S, Verma, S, **Bird, KA**, Yocca, A E, Edger, PP, & Knapp SJ, Whitaker VM, Folta, K M (2019). Disease Resistance Genetics and Genomics in Octoploid Strawberry.*G3: Genes,Genomes, Genetics,* 9, 3315-3332.

16 Edger PP, Poorten TJ, VanBuren R, Hardigan MA, Colle M, McKain MR, Smith RD, Teresi SJ, Nelson ADL, Wai CM, Alger EI, **Bird KA**, Yocca AE, Pumplin N, Ou S, Ben-Zvi G, Brodt A, Baruch K, Swale T, Shiue L, Acharya CB, Cole GS, Mower JP, Childs KL, Jiang N, Lyons E, Freeling M, Puzey JR & Knapp SJ. (2019) Origin and evolution of the octoploid strawberry genome *Nature Genetics,* 51, 541–547

17 Colle M, Leisner CP, Wai CM, Ou S, **Bird KA**, Wang J, Wisecaver JH, Yocca AE, Alger EI, Tang H, Xiong Z, Callow P, Ben-Zvi G, Brodt A, Baruch K, Swale T, Shiue L, Song G, Childs KL, Schilmiller A, Vorsa N, Buell CR, VanBuren R, Jiang N, Edger PP. (2019) Haplotype-phased genome and evolution of phytonutrient pathways of tetraploid blueberry, *GigaScience*, giz012

18 **Bird KA**, VanBuren R, Puzey JR, Edger PP. (2018) The causes and consequences of subgenome dominance in hybrids and recent polyploids. *New Phytologist*

19 Edger PP, McKain M, **Bird KA,** VanBuren R. (2018) Investigating the evolutionary dynamics of subgenomes in ancient polyploids: challenges and future directions. *Current Opinion in Plant* Biology 42.

20 McAlvay A C, **Bird KA**, Poulsen G, Pires JC, & Emshwiller E. (2017, May). Barriers and prospects for wild crop relative research in Brassica rapa. In *VII International Symposium on Brassicas* 1202 (pp. 165-177).

21 **Bird KA**, An H, Gazave E, Gore MA, Pires JC, Robertson LD and Labate JA (2017). Population structure and phylogenetic relationships in a diverse panel of Brassica rapa L. *Frontiers in Plant Science*. 8:321. doi: 10.3389/fpls.2017.00321

22 Washburn JD, **Bird KA**, Conant G, Pires JC. 2016 Convergent Evolution and the Origin of Complex Phenotypes in the age of Systems Biology. *International Journal of Plant Sciences* 177 (4), 000-000

23 Edger PP*, Tang M*, **Bird KA**, Mayfield DR, Conant G, Mummenhoff K, Koch M, Pires JC. 2014 Secondary Structure Analyses of the Nuclear rRNA Internal Transcribed Spacers and Assessment of Its Phylogenetic Utility across the Brassicaceae (Mustards). *PLoS ONE* 9(7): e101341

*These authors contributed equally to this work

NON-PLANT PUBLICATIONS

24 Palma Martínez MJ, Posadas García Y, López Ángeles BE, Quiroz López C , Lewis ACF, **Bird KA**, Lasisi T, Zaidi A, Sohail M. (In Prep) Beyond Continental Groups: Unveiling Dynamic Human Genetic Communities with a Novel Network Analysis Pipeline

25 **Bird KA**, Jackson JP, Winston AS. (2024). Confronting scientific racism in psychology: Lessons from evolutionary biology and genetics. American Psychologist, 79(4), 497–508. (Part of Special Issue: *Dismantling racism in the field of psychology and beyond)*

26 **Bird, KA,** & Carlson, J. (2024). Typological thinking in human genomics research contributes to the production and prominence of scientific racism. *Frontiers in Genetics*, 15, 1345631.

27 Xu MRX, Liao ZY, Brock JR, Kang D, Li GY, Chen ZQ, Wang YH, Gao ZN, Agarwal G, Wei KHC, Shao F, Pang S, Platts AE, van de Velde J, Lin HM, Teresi SJ, **Bird KA**, Niederhuth CE, Xu JG, Yu GH , Yang JY, Dai SF, Nelson A, Braasch I, Zhang XG, Schartl M, Edger PP, Han MJ, Zhang HH. (2023) *Maternal dominance contributes to subgenome differentiation in allopolyploid fishes. Nature Communications. 14, 8357.*

28 Roseman, CC, & **Bird, KA**. (2023). Between-group heritability and the status of hereditarianism as an evolutionary science. *BioRxiv*, 2023-12.

29 **Bird KA**. (2021) No support for the hereditarian hypothesis of the Black–White achievement gap using polygenic scores and tests for divergent selection. *American Journal of Physical Anthropology.*1–12. --(Top 0.5% AltMetric score for papers in this journal)

SCHOLARSHIPS AND AWARDS

2022-2025	**National Science Foundation Postdoctoral Research Fellowship in Biology.** National Science Foundation. $216,000
2022	**Bukovac Outstanding Graduate Student Award**, Michigan state University, $2,500
2017-2022	**University Distinguished Fellowship,** Michigan State University, $80,000
2016-2021	**National Science Foundation Graduate Research Fellowship** National Science Foundation, $138,000
2016-2017	**Fulbright US Student Award**, Department of State Bureau of Educational and Cultural Affairs, $14,389
2016	**Young Botanist of the Year Award**, Botanical Society of America
2016	**Professor Stanley Zimmering Prize for Outstanding Senior in Biological Sciences**, University of Missouri, $500
2016	**Award for Academic Distinction**, University of Missouri
2015	**Honorable Mention: Barry Goldwater Excellence in Education Scholarship**, Barry Goldwater Scholarship and Excellence in Education Foundation
2015	**American Society of Plant Biologists Summer Undergraduate Research Fellowship**, American Society of Plant Biologists, $4,000
2014-2015	**HHMI C3 Hughes Research Fellowship**, University of Missouri, $8,000
2013-2014	**Monsanto Undergraduate Research Fellowship**, University of Missouri, $2,800

GRANTS

2020	David and Marion Dilley Mentoring Scholarship, $3,000
2019	NRT-IMPACTS Travel Award, Michigan State University, $600
2018	Graduate Office Fellowship, Michigan State University, $2,000
2015	Honors College Student Experiential Learning Award, University of Missouri, $500
2015	Douglas D. Randall Young Scientist Development Grant, University of Missouri, $500
2014	Mizzou Advantage Undergraduate Travel Grant, University of Missouri, $360
2014	Office of Undergraduate Research Travel Grant, University of Missouri, $250

TEACHING EXPERIENCE

2024	Guest Lecture, Evolution, Culture & Behaviour, Durham University, UK
2024	Guest Lecture, HTHSCI 3RH3: Racism & Health, McMaster University, Canada
2023	Guest Lecture, PLS 152: Plant Genetics, University of California, Davis
2023	Guest Lecture, SOC 323: Racism and Inequality, Central Michigan University

2023	Guest Lecture, Understanding the World, North West University, South Africa
2023	Guest Lecture, Evolution, Culture and Behaviour, Durham University, UK
2022	Guest Lecture, PLS 152: Plant Genetics, University of California, Davis
2022	Guest Lecture, HTHSCI 3RH3: Racism & Health, McMaster University, Canada
2021	Guest Lecture, ANTH 350: Human Biology at University of New Mexico
2018-2021	Teaching Assistant, UGS 200: Molecular Phylogenetics & Evolution, Michigan State University
2016	Teaching Assistant, Phil 4400: Philosophy of Science. University of Missouri
2015	Teaching Assistant, GnHnrs2850: Finding the Story in Science. University of Missouri
2014-2015	Supplemental Instructor, BioSci 2200: General Genetics. University of Missouri
2014-2016	Tutor, BioSci 2200: General Genetics. University of Missouri

INVITED PRESENTATIONS

2024 University of Nebraska-Lincoln, School of Biological Sciences
Title: Integrating genomics and networks to reveal function and evolution of plant genomes

2024 Colorado State University, Department of Horticulture & Landscape Architecture,
Title: Harnessing evolutionary genomics for crop improvement

2024 31st Plant and Animal Genomics Conferences – BER Plant Genomic Science Workshop
Title: Pangenomic analyses reveal structural and gene-content variation in the allohexaploid biofuel crop *Camelina sativa*

2024 American Association of Biological Anthropologists 2024 annual meeting - *Undermining the production of race science (*symposium presentation)
Title: Misinterpretations of admixture regression in the study of group differences

2023 30th Plant and Animal Genomes Conference - Brassica Workshop
Title: Expression response to homoeologous exchange show signs of dosage constraint and dosage constraint of biased homoeologs differs between subgenomes

2022 American Association of Biological Anthropologists 2022 annual meeting - *Disrupting Genomics: Bringing Critical and Theoretical Approaches into Practice* (Symposium presentation)
Title: Anti-racist genomics: responding to scientific racism in the 21st century

2022 Harvard FXB Center for Health & Human Rights Seminar
Title: The Mismeasure of genes: genetics and scientific racism in the 21st century

2022 University of California Davis, Center for Population Biology
Title: Evolutionary impacts of genomic structural variation

ORAL PRESENTATIONS

2023 Polyploidy Across the Tree of Life 2023
2022 Plant Genomes Online 2022
2020 MSU EEBB graduate student colloquium, East Lansing, MI
2019 5th Conference on Plant Genome Evolution, Sitges Spain
2019 Symposium on Evolution and Core Processes of Gene Expression, American Society for Biochemistry and Molecular Biology, East Lansing, MI
2018 Botany 2018, Botanical Society of America, Rochester, MN
2016 Botany 2016, Botanical Society of America, Savannah, GA

POSTERS

2022 Biology of Genomes 2022, Cold Spring Harbor Labs, Cold Spring Harbor, NY
2018 Plant Biology 2018, American Society of Plant Biologists, Montreal, Quebec
2016 Plant Biology 2016, American Society of Plant Biologists, Austin TX
2015 Life Sciences Week, University of Missouri, Columbia MO
2015 University of Missouri Undergraduate Research and Creative Achievements Forum, Columbia, MO
2015 Undergraduate Research Day at the Capitol, Jefferson City, MO
2014 Botany 2014, Botanical Society of America, Boise, ID
2014 Evolution 2014, Raleigh, NC

RELATED EXPERIENCE

June, 2021 **Humane Genetics Literacy Summer Institute, BSCS Science Learning**
Workshop focused on teaching of human genetics in a way that directly addresses misconceptions like genetic essentialism to reduce racial prejudice held by students.

Dec, 2018 **Genome Assembly Workshop, University of California Davis**
Workshop teaching basics of third generation sequencing technologies (PacBio, Nanopore, 10X, HiC) and strategies for assembly of long-read genomes.

Jan, 2016 **Tucson Plant Breeding Institute, University of Arizona**
Workshop covering quantitative genetics, statistics, experimental design and GWAS/QTL mapping for application in plant breeding

May, 2014 **HHMI Summer Biomedical Informatics Institute, University of Missouri**

PROFESSIONAL SERVICE

Funding Agencies:
2022 Ad-hov reviewer: National Science Foundation Division of Environmental Biology
2022 Ad-hoc reviewer: French National Research Agency (ANR)

Ad-hoc journal reviewer for *Nature Genetics*, *Science*, *Nature Communications*, *PNAS*, *The Plant Cell, Molecular Biology and Evolution, New Phytologist, Horticulture Research, Journal of Experimental Botany, Plant Biotechnology Journal, Plant Physiology, Genome Biology and Evolution, Theoretical and Applied Genetics, Plant Physiology and Biochemistry, American Journal of Botany, Application in Plant Sciences, Communications Biology, Biological Theory,* PLOSONE, *G3: Genes|Genomes|Genetics, and Frontiers in Plant Science*

2023-2025 **Organizer of Polyploidy Workshop, Plant and Animal Genome Conference**

2022-2024 **Department Steward**, **UAW 5810, University of California-Davis**

2020 **Ad-hoc *Diversity*, Equity and Inclusion working group for Horticulture Department at MSU**

2020-2021 **NSF-GRFP working group co-mentor, Botanical Society of America**

2020-2022 **Fulbright fellowship internal reviewer, University of Missouri**

2019-2020 **President, Graduate Employees Union, Michigan State University**
*Representing over 1,200 graduate students. Oversaw annual budget in excess of $200,000. Directly managed two full time staff organizers

2018-2019 **Chief Information Officer, Graduate Employees Union, Michigan State University**

2017-2019 **NSF-GRFP reviewer, Michigan State University**

2017-2018 **Professional Development Co-Chair, Horticulture Organization of Graduate Students, Michigan State University**

2014-2016 **Undergraduate Research Ambassador, University of Missouri**

MENTORING

Graduate Students
Matthew Davis, UC Davis
Kehan Zhao, UC Davis
Amanda Agosto Ramos, UC Davis

Undergraduate Students
Mitchell Alekman, Michigan State University
Jaclyn Melasi, Michigan State University
Scott Teresi, Michigan State University

Other Mentoring
Reviewed and provided feedback on over 35 NSF-GRFP applications, 36 Fulbright applications, and 4 graduate school admissions essays from students across the country

OUTREACH

2020 Judge, Ozark Science and Engineering Fair, Junior and Senior division

2019 Biology on Tap, public research oral presentation *The Multi-million year evolutionary journey of the strawberry*

2019 Fascination in Plants Day at Michigan State, public demonstration and lessons about plants and plant genetics to a general public audience in East Lansing

2017-2018 Organized informal journal club, “Peer Rebrew” that focused on latest work in genomics and systems biology

NON-TECHNICAL WRITING

2024 *Journals that published Richard Lynn’s racist ‘research’ articles should retract them *STAT News* *https://www.statnews.com/2024/06/20/richard-lynn-racist-research-articles-journals-retractions/*

2023 Strawberries Have 8 Sets of Chromosomes to Thank for Their Survival. *Scientific American.* *https://www.scientificamerican.com/article/strawberries-have-8-sets-of-chromosomes-to-thank-for-their-survival/*

2021 *The Genetic Lottery is a Bust for Both Genetics and Policy,* Review of *The Genetic Lottery* by Kathryn Paige Harden *https://massivesci.com/articles/genetic-lottery-review-paige-harden-kevin-bird/*

2021 *****Not in Our Genes-Resisting the Narrative around Genome-wide Association Studies. S*cience For The People* Vol. 23 No.3 Bio-politics pp. 47-50 https://magazine.scienceforthepeople.org/vol23-3-bio-politics/genetic-basis-genome-wide-association-studies-risk/

2020 *****Fighting Racist Pseudoscience With Actual Science: A Guide, review of *How to Argue with a Racist* by Adam Rutherford. *Arc Digital* *https://medium.com/arc-digital/fighting-racist-pseudoscience-with-actual-science-a-guide-2d18c509a781* ***(~7,900 views as of Jan 10th 2023)***

OTHER MEDIA

2023 *Consulted for The Atlantic article *The Young Conservatives Trying to Make Eugenics Respectable Again* *https://www.theatlantic.com/ideas/archive/2023/09/richard-hanania-racist-pseudoscience-woke-silicon-valley/675335/*

2018 *****Consulted for New York Times story *Why White Supremacists Are Chugging Milk (and Why Geneticists Are Alarmed)* https://www.nytimes.com/2018/10/17/us/white-supremacists-science-dna.html also featured in https://www.nytimes.com/2018/10/18/insider/science-genetics-white-supremacy.html

*** related to diversity, inclusion and anti-racism**