Heath Blackmon

Department of Biology
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Academic Positions

2022-present	Associate Professor, Department of Biology, Texas A&M University, College Station, TX.
2017-present	TAMU - Faculty of Ecology and Evolutionary Biology
2017-present	TAMU - Faculty of Genetics
2017-2022	Assistant Professor, Department of Biology, Texas A&M University, College Station, TX.
2015-2017	Postdoctoral Associate, University of Minnesota
	Goldberg Lab (comparative methods) and Brandvain Lab (theoretical population genetics)
2013	Graduate Fellow, NSF National Evolutionary Synthesis Center

Administrative and Service Positions

2021-present	Associate Department Head for Graduate Studies, Department of Biology
	Oversee graduate program of approximately 200 students
2024-present	Chair Ecology and Evolutionary Biology Interdepartmental Ph.D. Program
2021-2024	Chair-elect Ecology and Evolutionary Biology Interdepartmental Ph.D. Program
2022-present	Associate Editor Journal of Heredity
2023-2024	President Texas Genetics Society

Education

2015 Ph.D., Quantitative Biology, University of Texas at Arlington
Dissertation: Synthesis and phylogenetic comparative analyses of the causes and consequences of karyotype evolution in arthropods
Major Professor: Jeffery Demuth

2010 B.S., Environmental Science, Oregon State University, Summa Cum Laude
Fisheries and wildlife management track

Research Grants ($1,600,000 since 2017)

Current

07/2020-06/2025 NIH/NIGMS R35 GM138098 (PI: Blackmon)
Integrating theory, genomics, and comparative approaches to break barriers to the understanding of genome structure and sex chromosome evolution.
Annual direct $249,000

03/2023-7/2024 DefenseWerx (Performer: Blackmon)
Public sequence databases: assessments and future targeting
Total direct $50,000

07/2022-06/2026 NIH/NIAID R01 AI172043 (PI: Sorg, Collaborator: Blackmon)
Impact of the C. difficile small acid soluble proteins on spore physiology.
Annual direct $12,500

05/2024-04/2025 NSF RAMP (PI: University of Houston, Collaborator: Blackmon)
Providing postbac training in interdisciplinary evolutionary biology.

Annual direct $15,000 (excluding student stipend)

Completed or declined

03/2022-5/2023 DefenseWerx (Performer: Blackmon)
Public sequence databases: assessments and future targeting
Total direct $50,000

06/2019-05/2021 Eppley Foundation (C. Casola, PI)
The genomics of pine beetle outbreaks
Co-PI Heath Blackmon
Total direct $14,768 ($7,348 to Blackmon lab)

2020 EcoLab Grant (Graduate student M. Jonika, PI)
Evolution of sex chromosomes in Tiger beetles
Co-PI Heath Blackmon
Total direct $18,521
Declined grant due to fieldwork restrictions associated with pandemic

2018-2020 Texas A&M University T3: Research Triad Grant (Blackmon, PI)
10,000 years of genome evolution: a replicated natural experiment in the sky islands of the southwest.
Co-PIs J.S. Johnston, A. Pepper.
Total direct $32,500

2016-2018 University of Minnesota Grand Challenges Grant (Blackmon, PI)
Sex chromosome aneuploidy: reproductive health in humans and domestic animals and driving forces in the evolution of genome architecture
Total direct $102,000

2016 US-Israel Binational Science Foundation Fellowship (Blackmon, PI)
The evolutionary dynamics of ploidy evolution in plants
Total direct $46,000
Declined to accept UMN Grand Challenges Grant

2016-2019 NSF: DEB-BSF (E. Goldberg, I. Mayrose PIs)
Breaking barriers to the study of trait-dependent lineage diversification.
Collaborator H. Blackmon
Total direct $589,881 (not included in total funding for lab)
I wrote portions funding my work on discrete trait model adequacy and broader impact activities with veterans. I received funding for travel and NSF sponsored graduate workshop during summer of 2019.

2013 NESCent Graduate Fellowship (Blackmon, PI)
The Tree of Sex: A comprehensive synthesis of sex determination systems and their evolution in invertebrates
Total direct $23,000 funding a 6-month resident fellowship at NESCent in North Carolina

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Peer Reviewed Publications Google Scholar Link

Blackmon lab members: [1]Undergraduate [2]Graduate [3]Postdoc

2024

51. Wilhoit, K.T.[1], E.P. Alexander, **H. Blackmon**. Worse than nothing at all: the inequality of fusions joining autosomes to the PAR and non-PAR portions of sex chromosomes. PeerJ 12:e17740

50. Sylvester, T[2]., Z. Hoover[1], C.E. Hjelmen, M.M. Jonika[2], L.T. Blackmon, J.M. Alfieri[2], J.S. Johnston, S. Chien[2], T. Esfandani, **H. Blackmon**. A reference quality genome assembly for the jewel scarab Chrysina gloriosa. ***G3: Genes, Genomes, and Genetics***. 14:5, jkae084.

49. Perry, A.[1], D. Eddelbuettel, G. Rosenthal, **H. Blackmon**. Polly: An R package for genotyping microsatellites and detecting highly polymorphic DNA markers from short-read data. ***Molecular Ecology Resources.*** 24(40) e13933

48. **H. Blackmon**, M.M. Jonika[2], J.M. Alfieri[2], L. Fardoun[1], J.P. Demuth. Drift drives the evolution of chromosome number I: The impact of trait transitions on genome evolution in Coleoptera. ***Journal of Heredity.*** 115(2) 173-182

47. Jonika, M.M.[2], K.T. Wilhoit[1], M. Chin[1], A. Arekere[1], **H. Blackmon**. Drift drives the evolution of chromosome number II: The impact of range size on genome evolution in Carnivora. ***Journal of Heredity.*** esae025

46. Burch, J.[2], M. Chin, B.E. Fontenot, S. Mandal, T.D. McKnight, J.P. Demuth, **H. Blackmon.** Wright was right: Leveraging old data and new methods to illustrate the critical role of epistasis in genetics and evolution. ***Evolution***. 78(4) 62-634

45. Alfieri, J.M.[2], R. Hingoranee, G.N. Athrey **H. Blackmon**.. Domestication is Associated with Increased Interspecific Hybrid Compatibility in Landfowl. ***Journal of Heredity***. 115(1) 1-10

2023

44. 30 Authors. A pangenome graph reference of 30 Chicken Genomes Allows Genotyping of Large and Complex Structural Variants. ***BMC Biology***. 21, 267

43. 30 Authors. Chicken Genomic Diversity Consortium: large-scale genomics to unravel the origins and adaptations of chickens. ***Cytogenetic and Genome Research*** 162(8-9) 405-528

42. Alfieri, J.M.[2], M.M. Jonika[2], J.N. Dulin, **H. Blackmon**. Tempo and Mode of Genome Structure Evolution in Insects. ***Genes*** 14(2), 336;

41. Alfieri, J.M.[2], T. Johnson, A. Linderholm, **H. Blackmon**, G.N. Athrey. Genomic investigation refutes record of most diverged avian hybrid. ***Ecology and Evolution*** 13(1), e9689

2022

40. Pitonak, M., M. Aceves, P.A. Kumar, G. Dampf, P. Green. A. Tucker, V. Dietz, D. Miranda, S. Letchuman, M.M. Jonika[2], D. Bautista, **H. Blackmon**, J.N. Dulin. Effects of biological sex mismatch on neural progenitor cell transplantation for spinal cord injury in mice. **Nature Communications** 13(1) 1-12

39. Perry, A.[1], S.E. McGaugh, A.C. Keene, **H. Blackmon**. CaveCrawler: An interactive analysis suite for cavefish bioinformatics. **G3: Genes, Genomes, and Genetics.** 12:8 jkac132

38. Hancock, Z., E. Lehmberg[2], **H. Blackmon**. Phylogenetics in space: How Continuous Spatial Structure Impacts Tree Inference. **Molecular Phylogenetics and Evolution** 173 107505

37. Jonika, M.[2], J.M. Alfieri[2], T. Sylvester[2], A. Burhow, **H. Blackmon**. Why not Y Naught. **Heredity** 129 75-78

36. Lotterhos, K., M. Fitzpatrick, **H. Blackmon**. Simulations in Evaluations of Methods in Evolution, Ecology, and Systematics. **Annual Reviews in Evolution, Ecology, and Systematics**. 53:113-136

35. Alfieri, J.M[2]., W. Guosong, M.M. Jonika[2], C.A. Gill, **H. Blackmon**, G.N. Athrey. A Primer for Single-Cell Sequencing in Non-Model Organisms. ***Genes***. 13:2 380 DOI: 10.3390/genes13020380

34. Morelli M.W., **H. Blackmon**, C.E. Hjelmen[3]. Diptera and Drosophila Karyotype Databases: A Useful Dataset to Guide Evolutionary and Genomic Studies. ***Frontiers in Ecology and Evolution***. 10: 832378 DOI: 10.3389/fevo.2022.832378

33. Lo, Johnathan[1], and **H. Blackmon**. Linkage does not impact retrogene survival. ***PeerJ***. 10:e12822

2021

32. Adams, R.H., **H. Blackmon,** M. DeGiorgio. Of traits and trees: probabilistic distances under continuous trait models for dissecting the interplay among phylogeny, model, and data. ***Systematic Biology***. in press. DOI: 10.1093/sysbio/syab009
-Responsible for interpretation and application of results

2020

31. Anderson[1] N., C.E. Hjelmen[3], **H. Blackmon.** The Probability of Fusions Joining Sex Chromosomes and Autosomes. ***Biology Letters***. 16(11):20200648. DOI:10.1098/rsbl.2020.0648

30. Hancock, Z.B. and **H. Blackmon.** Ghosts of a structured past: Impacts of ancestral patterns of isolation-by-distance on divergence-time estimation. ***Journal of Heredity***. 111:6 pp. 573-582. DOI:10.1093/jhered/esaa042

29. Ruckman[2], S.N., M. Jonika[2], C. Casola, and **H. Blackmon.** Chromosome number evolves at equal rates in holocentric and monocentric clades. ***PLoS Genetics***. 16(10):e1009076. DOI:10.1371/journal.pgen.1009076

28. Sylvester[2], T., C.E. Hjelmen[3],S.J. Hanrahan, P.A. Lenhart, J.S. Johnston, and **H. Blackmon.** Lineage-specific patterns of chromosome evolution are the rule not the exception in Polyneoptera insects. ***Proceedings of the Royal Society B***. 287:1935 20201388. DOI:10.1098/rspb.2020.1388

27. Ruckman[2], S.N. and **H. Blackmon**. The March of the Beetles: epistatic components dominate divergence in dispersal tendency in *Tribolium castaneum*. ***Journal of Heredity***. 111:5 pp. 498-505. DOI:10.1093/jhered/esaa030 blog review of article - American Genetics Society

26. Jonika[2], M., J. Lo[1], **H. Blackmon**. Mode and Tempo of Microsatellite Evolution across 300 Million Years of Insect Evolution. ***Genes***. 11:8 945. DOI:10.3390/genes11080945

25. Hjelmen[3] C.E., V.R. Holmes, C.G. Burrus, E. Piron, M. Mynes, M. Garrett, **H. Blackmon**, J.S. Johnston. Thoracic underreplication in *Drosophila* species estimates a minimum genome size and the dynamics of added DNA. ***Evolution***. 74:7 pp. 1423-1436. DOI:10.1111/evo.14022
-Responsible for application of phylogenetic models of genome size evolution

2019

24. Hjelmen[3], C.E., **H. Blackmon**, V.R. Holmes, C.G. Burrus, J. Spencer Johnston. Genome size evolution differs between *Drosophila* subgenera with striking differences in male and female genome size in *Sophophora*. ***G3: Genes, Genomes, and Genetics***. 9:10, pp. 3167-3179. DOI:10.1534/g3.119.400560
-Responsible for application of phylogenetic models of genome size evolution

23. Lo[1], J., M.M. Jonika[2], and **H. Blackmon**. micRocounter: Microsatellite Characterization in Genome Assemblies. ***G3: Genes, Genomes, and Genetics***. 9:10 pp. 3101-3104. DOI:10.1534/g3.119.400335

22. Perkins[1], R.D., J.R. Gamboa[2], M.M. Jonika[2], J. Lo[1], A. Shum[1], R.H. Adams, **H. Blackmon.** A Database of Amphibian Karyotypes. ***Chromosome Research***. 27:4 pp. 313-319. DOI:10.1007/s10577-019-09613-1

21. Schield, D.R., D.C. Card, N.R. Hales, B.W. Perry, G.I.M. Pasquesi, **H. Blackmon,** R.H. Adams, A.B. Corbin, C.F. Smith, B. Ramesh, J.P. Demuth, E. Betrán, M. Tollis, J.M. Meik, S.P. Mackessy, and T.A.

Castoe. The origins and evolution of chromosomes, dosage compensation, and mechanisms underlying venom regulation in snakes. ***Genome Research***. 29:4 pp. 590-601. DOI:10.1101/gr.240952.118
-Responsible for inference of cross species chromosome homology

20. Armstrong, A.[1], N. Anderson[1], **H. Blackmon**. Inferring the potentially complex genetic architectures of adaptation, sexual dimorphism, and genotype by environment interactions by partitioning of mean phenotypes. ***Journal of Evolutionary Biology***. 32:4 pp. 369-379. DOI:10.1111/jeb.13421

19. **Blackmon, H.,** J. Justison, I. Mayrose, E.E. Goldberg, Meiotic drive shapes rates of karyotype evolution in mammals. ***Evolution***. 73:3 pp. 511-523. DOI:10.1111/evo.13682

18. Passow, C., A.M. Bronikowski, **H. Blackmon,** S. Parsai, T.S. Schwartz, S.E. McGaugh, Contrasting patterns of rapid molecular evolution within the p53 network across mammal and sauropsid lineages. ***Genome Biology and Evolution***. 11:3 pp. 629-643. DOI:10.1093/gbe/evy273
-Responsible for phylogenetic comparative analyses of life span and rates of gene evolution

17. Gale, C.C., E. Borrego, **H. Blackmon,** J.K. Harper, D. Richardson, and H. Song. Investigating a Photolytic Metabolite in the Nocturnal Grasshopper Schistocerca ceratiola (Orthoptera: Acrididae). ***Annals of the Entomological Society of America***. 112:1, pp. 50-55. DOI: 10.1093/aesa/say048
-Responsible application and interpretation of statistical analyses

2017

16. **Blackmon H.,** Y. Brandvain. Short-term resolution of sexual antagonism dominates long-term fragility of Y chromosomes. ***Genetics***. 207:4 pp. 1621-1629. DOI: 10.1534/genetics.117.300382

15. **Blackmon H.,** L. Ross, D. Bachtrog. Sex determination, sex chromosomes and karyotype evolution in insects. ***Journal of Heredity***. 108:1 pp. 78-93. DOI: 10.1093/jhered/esw047. *F1000 recommended article*.

14. Adams R., D Schield, D. Card, **H. Blackmon**, and T. Castoe. GppFst: Genomic posterior predictive simulations of Fst and dxy for identifying outlier loci from population genomic data – ***Bioinformatics***. 33:9 pp. 1414-1415. DOI:10.1093/bioinformatics/btw795
-Contributed to design of R package and interpretation of results

2016

13. **Blackmon, H.** and J.P. Demuth. An information-theoretic approach to estimating the composite genetic effects contributing to variation among generation means: moving beyond the joint-scaling test for line cross analysis. ***Evolution***. 70:2 pp. 420-432. DOI: 10.1111/evo.12844

12. Asian Longhorn Beetle Consortium (67 Authors)**.** Genome of the Asian longhorned beetle (*Anoplophora glabripennis*), a globally significant invasive species, reveals key functional and evolutionary innovations at the beetle-plant interface. ***Genome Biology***. 17:1 227. DOI: 10.1186/s13059-016-1088-8
-Responsible for inference of cross species chromosome homology

11. Ross, L. and **H. Blackmon.** Sex Determination. In R. Kliman (Ed.) ***Encyclopedia of Evolutionary Biology***. pp. 81-88 Elsevier Academic Press. DOI:10.1016/B978-0-12-800049-6.00146-3

10. Adams R.; **H. Blackmon**; J. Reyes-Velasco; D. Schield; D. Card; A. Andrew; N. Waynewood; T. Castoe. Microsatellite landscape evolutionary dynamics across 450 million years of vertebrate genome evolution. ***Genome***. 59:5, pp. 295-310. DOI: 10.1139/gen-2015-0124
-Responsible for phylogenetic inference and comparative analyses

2015

9. **Blackmon, H.**, N. Hardy, L. Ross. The evolutionary dynamics of haplodiploidy: genome architecture and haploid viability. ***Evolution***. 69:11 pp. 2971-2978. DOI: 10.1111/evo.12792

8. **Blackmon, H.**, and J. P. Demuth. The fragile Y hypothesis: Y chromosome aneuploidy as a selective pressure in sex chromosome and meiotic mechanism evolution. ***Bioessays***. 37:9 pp. 942-950. DOI: 10.1002/bies.201500040

7. **Blackmon, H.**, and J. P. Demuth. Coleoptera Karyotype Database. ***The Coleopterists Bulletin***. 69:1 pp. 174-175. DOI: 10.1649/0010-065X-69.1.174

6. Ross, L., **H. Blackmon**, P. Lorite, V. Gokhman, and N. Hardy. Recombination, chromosome number and eusociality in the Hymenoptera. ***Journal of Evolutionary Biology***. 28:1 pp. 105-116. DOI: 10.1111/jeb.12543
   -Responsible comparative analyses of rates of chromosome evolution

5. **Blackmon, H.**, and J. P. Demuth. Genomic origins of insect sex chromosomes. ***Current Opinion in Insect Science***. 7 pp. 45-50. DOI: 10.1016/j.cois.2014.12.003. *F1000 recommended article*

2014

4. **Blackmon, H.**, and J. P. Demuth. Estimating tempo and mode of Y chromosome turnover: explaining Y chromosome loss with the fragile Y hypothesis. ***Genetics***. 197:2 pp. 561-572. DOI: 10.1534/genetics.114.164269

3. Streicher, J. W., T. J. Devitt, C. S. Goldberg, J. H. Malone, **H. Blackmon**, and M. K. Fujita. Diversification and asymmetrical gene flow across time and space: lineage sorting and hybridization in polytypic barking frogs. ***Molecular Ecology***. 23:13 pp. 3273-3291. DOI: 10.1111/mec.12814
   -Responsible development of software for statistical analyses

2. Ashman T., D. Bachtrog, **H. Blackmon**, E.E. Goldberg, M.W. Hahn, M. Kirkpatrick, J. Kitano, J.E. Mank, I. Mayrose, R. Ming, S.P. Otto, C.L. Peichel, M.W. Pennell, N. Perrin, L. Ross, N. Valenzuela, and J.C. Vamosi. Tree of Sex: A database of sexual systems. ***Nature Scientific Data***. 1:140015. – responsible for 11,526 invertebrate records and all figures. DOI: 10.1038/sdata.2014.15
   -Responsible for production of figures for all groups and curation of invertebrate data

2012

1. **Blackmon, H.**, and J. P. Demuth. Ring Species and Speciation. ***Encyclopedia of Life Science***. www.els.net. DOI: 10.1002/9780470015902.a0001751.pub3

Software and Databases

R Packages

1. chromePlus: Probabilistic models of chromosome evolution *https://github.com/coleoguy/chromePlus/*
2. SAGA2: Software for the Analysis of Genetic Architecture. *https://github.com/coleoguy/SAGA2*
3. EvobiR: Evolutionary biology analysis in R. *https://github.com/coleoguy/EvobiR*
4. micRocounter: Microsatellite quantification. *https://github.com/johnathanlo/micRocounter*
5. POLLY: Genotyping highly variable regions in R. *https://github.com/AnnabelPerry/Polly/tree/main*

Databases

1. Karyotype Database. *https://karyotype.org*
2. Tree of Sex Database. *https://treeofsex.org*
3. Cave Crawler. *https://cavecrawler.org*
4. Quantitative Genetics Data *https://evobir.shinyapps.io/lca-synth/*

Pedagogy

1. PopGenSim: Wright-Fisher Simulator *https://github.com/coleoguy/popgensim*

Invited Research Seminars and Talks

2024

STEGG Conference; University of Houston

2023

Indiana University; Department of Biology

Plenary Lecture; Wellcome Genome Campus, Hinxton U.K.

2021

Illinois Institute of Technology; Department of Biological Sciences
University of California Riverside; Department of Biology
Arthropod Genomics Conference - Virtual
University of Texas at Arlington; Department of Biology
Texas A&M University; Department of Pathophysiology
Texas A&M University; Biochemistry and Genetics Group

2019

Evolution Conference; Spotlight talk
Texas A&M University; Statistics symposium
Texas A&M University CVM; Reproductive biology group
Texas A&M University; Department of Entomology
Texas A&M University; Department of Math

2018

University of Arizona; Department of Ecology, Evolution and Behavior
Saint Edwards University; Department of Biology

2017

Louisiana State University; Department of Biology
University of Houston; Department of Biology and Biochemistry
Texas A&M University; Genetics and Genomics Seminar Series
Texas A&M University; Biology Department
University of Minnesota; Department of Plant and Microbial Biology

2016

Tel Aviv University; Department of Plant Biology
Genetic Society of America; James F. Crow early career researcher award symposium, Orlando Florida

2015

American Genetics Association; President's Symposium, Bainbridge Washington

2013

University of Texas at Austin; Department of Population Biology

Presentations by Lab Members ([T] talk, [P] poster)

2023

Genome Editing Conference:	Megan Copeland [P], Crystal Nava [P] 1st place, Jorja Burch [P], Priscilla Glenn[T] 1st place
Texas Genetics Society:	Matthew Marano [P], Michelle Jonika [P], Jorja Burch [P] 1st place, Max Chin [P], Kayla Wilhoit [T] 1st place
Life on a dynamic planet:	Michelle Jonika [P] 1st place, Jorja Burch [P] 1st place
Eco. Integration Symposium:	Megan Copeland P 1st place

2021

Texas Genetics Society:	Terrence Sylvester [P], Michelle Jonika [P] 1st place grad student, Kayla Wilhoit [P], Julia Plocia [P]
TAMU Student Research Week:	Kayla Wilhoit [P] 1st place

2020

Rutgers Univ. Entomology Dept:	Carl Hjelmen [T]
Texas A&M EEB:	James Alfieri [T]
Texas A&M Biology Seminar :	Terrence Sylvester [T]
TAMU SPRC:	Terrence Sylvester [P], Johnathan Lo [P], Julia Plocica [P]
Texas Genetic Society:	Michelle Jonika [P]
TAMU Life Sciences Symp.:	Michelle Jonika [T]

2019

Evolution Conf., Rhode Island: Michelle Jonika [T], Julio Rincones-Gamboa [P], Terrence Sylvester [P]
Texas Genetic Society Meeting: Michelle Jonika [P], Johnathan Lo [P], David Gafford-Gabey [P], Terrence Sylvester [P]
Andrew Armstrong [P], Nathan Anderson [P] – 1st place undergraduate
Genetics Recruiting Seminar: Michelle Jonika [P]
TAMU Student Research Week: Johnathan Lo [P], Amy Shum [P], Terrence Sylvester [P], Andrew Armstrong [P]
Nathan Anderson [P], Michelle Jonika [P], Riddhi Perkins [P]
TAMU SPRC: Terrence Sylvester [P], Carl Hjelmen [T]
Texas A&M GENE Seminar: Michelle Jonika [T]
Texas A&M EEB Seminar: Carl Hjelmen [T]

2018

Texas Genetics Society: Nathan Anderson[P], Andrew Armstrong[P] – 1st place undergraduate
TAMU Student Research Week Andrew Armstrong [P], Nathan Anderson [P]

Student's Achievements

2024 Lawrence S. Dillon Distinguished Graduate Student Award – Jorja Burch
2023 AFS Graduate Student Research Excellence – Michelle Jonika
2023 Montgomery Award for Excellence – Michelle Jonika
2022 Data Science Ambassador – Michelle Jonika
Research Excellence in Genetics – Michelle Jonika
2021 NSF Graduate Research Fellowship – Johnathan Lo
Undergraduate Research Ambassadors – Emily Ha and Jennifer Elbert
2020 Barry Goldwater Scholarship – Johnathan Lo
Astronaut Scholarship – Johnathan Lo

Other Publications

2018 Scientific Consultant *The Evolution of Insects* by Christine Evans, Abdo Publishing
2010 – present Coleopterists Corner - blog. 100+ posts. 1,000+ views/month
2014 Blackmon, H. Coleoptera Karyotypes: The evolution of sex chromosomes and chromosome number. *Newsletter of the Ontario Entomological Society* 19:2 19–21

Teaching Experience

U – undergraduate G – graduate † developed curriculum
Average student evaluation for all classes taught at Texas A&M 4.5/5

Primary instructor

Texas A&M University

2024	Department Colloquium	G 52 students
2024	Communication in Biology†	G 38 students
2023	Department Colloquium	G 44 students
2023	Introduction to graduate school†	G 49 students
2023	Experimental design†	G 99 students
2022	Department Colloquium	G 44 students
2022	Introduction to graduate school†	G 27 students
2022	Experimental design†	G 68 students
2022	Genetics literature module†	G 12 students
2021	Introduction to graduate school†	G 25 students
2021	Experimental design†	G 37 students
2021	EEB: Phylogenetics module†	G 12 students
2020	Bioinformatics†	U 72 students
2020	Experimental design†	G 32 students
2020	EEB: Phylogenetics module†	G 15 students
2019	R for Bioinformatics†	G 12 students
2019	Experimental design†	G 23; U 2 students

2019	EEB: Phylogenetics module	G 15 students
2018	Experimental design	G 13 students
2018	EEB: Phylogenetics module†	G 7 students

University of Texas at Arlington

2013	Introduction to R for Biologists	G 12 students
2011	Entomology Laboratory†	U 60 students

Directed graduate study: each semester I provide an evolutionary theory journal club or an EEB book club.

Semester	Enrollment	Journal club topic	Book covered:
2024 Fall	10	Evolutionary Genomics	Darwinian thought
2023 Fall	12	Foundations of EEB	
2023 Spring	7	Python for biologists	
2022 Fall	7	EEB. Genomics	
2022 Spring	6	The publication process	
2021 Spring	15	Foundations of EEB	Mathematical Biology: Otto and Day
2020 Winter	20	not offered during break	NextGen Ph.D.: Sinche
2020 Fall	16	Theory in genomics	Genes Categories and Species: Hey
2020 Summer	16	Phylogenetics	Evolution of Sex Determination: Bull
2020 Spring	14	Sexual antagonism	Inferring phylogenies: Felsenstein
2019 Fall	12	Population genetics	Evolution by Gene Duplication: Ohno
2019 Spring	6	Foundations of EEB	Origin of Species: Darwin
2018 Fall	8	Recent advances in EEB	Evolutionary Theory: Rice
2018 Spring	10	Phylogenetics	Adaptation: Williams

MENTORING

Research Staff

Tahmineh Esfandani	2020-present	Senior Research Associate
Michelle Jonika	2023-present	Postdoctoral researcher
Kylie Penders	2023-present	Lab Technician
Kenzie Laird	2023-present	Lab Technician
Jennifer Elbert	2021-2023	Lab Technician
Ridhi Perkins	2017-2019	Lab Manager

Current Graduate Students in Blackmon Lab

Jorja Burch	2020-2025	Chair	TAMU-Biology	Ph.D.
Emma Lehmberg	2018-2023	Chair	TAMU-EEB	Ph.D.
Megan Copeland	2022-2026	Chair	TAMU-Biology	Ph.D.
Sean Chien	2022-2026	Chair	TAMU-Biology	Ph.D.
Andres Barboza	2023-2026	Chair	TAMU-Genetics	Ph.D.
Kaya Harper	2024-2027	Co-Chair	TAMU-Biology	Ph.D.

Former Lab Members (name, role in Blackmon lab, current position)

Priscilla Glenn	Postdoc	Postdoc TAMU
Terrence Sylvester	Ph.D. student	Postdoc UT Memphis
Jamie Alfieri	Ph.D. student	Postdoc UT Austin
Michelle Jonika	Ph.D. student	Postdoc TAMU
Carl Hjelmen	Postdoc	TT faculty UVU
Sarah Ruckman	M.A. student	Ph.D. student at University of FL
Nathan Anderson	Undergraduate	Ph.D. student at UW Madison

Johnathan Lo	Undergraduate	Ph.D. student at UC Berkeley
Max Chin	Undergraduate	Ph.D. student at UC Davis
Anabell Perry	Undergraduate	Ph.D. student at Harvard
Kayla Willhoit	Undergraduate	Ph.D. student at Duke

Current Member of Graduate student committee (18)

Andrew Harris	TAMU-Genetics
Nathan Anderson	University of Wisconsin Madison-Genetics
Rose Blanchard	TAMU-Ecology and Conservation Biology
Carolynn Porter	UH-Biology
Collin Valentin	TAMU-Entomology
Chelsea Thorn	TAMU-Biology
Ryan Maness	TAMU-Biology
Carla Deloera	TAMU-Entomology
Isabella Childers	TAMU-Genetics
Taylor Black	TAMU-Biology
Koen Kliene	TAMU-Biology
Shah Deshna	TAMU-Biology
Adeyinka Adeyemi	TAMU-ECCB
Bhagya Weththasinghe	TAMU-EEB
Eduardo Berber	TAMU-Biology
Matthew Marano	TAMU-EEB
Myles Wagner	TAMU-EEB

Member of Former Graduate student committee

Andrew Anderson	TAMU-Biology (local chair)
Andrew Sakla	TAMU-Biology
Roberto Garcia	University of Sonora-Entomology
Stephen Bovio	TAMU-EEB
Luke Bower	TAMU-Wildlife and Fisheries
Kevin Bredimeyer	TAMU-Genetics
Mateo Garcia	TAMU-EEB
Sarah O'Leary	TAMU-Genetics
Alexis Earl	TAMU-WFSC
Nicholas Farmer	TAMU-Plant pathology
Brendand DeAngelo	TAMU-Biology
Tara Mahood	TAMU-Nutrition
Constance Lin	TAMU-Entomology
Qian Xu	TAMU-Biomedical Science
Jenna Hulke	TAMU-Biology
Kasuni Daundasekara	TAMU-Biology
Megan Sporre	TAMU-Galveston-Marine Biology

Faculty Members Mentored (3)

Mahul Chakraborty
Rachel Moran
Matthias Koch

Undergraduates Mentored († first author publication, * coauthor publication)

Nathan Anderson†
Andrew Armstrong†
Tiffany Brown
Jennifer Elbert
David Gafford-Gabbey
Mayra Gonzalez
Emily Ha
Shawn Hingo
Zachary Hoover*
Chandler Kassel
Alli Konstantinov
Johnathan Lo†
Morgan Martin
Lizzie Opp
Ellena Pavese
Riddhi Perkins†
Julia Plocica
Alejandro Resto
Paulina Serra Rossi
Amy Shum*
Eleanor Simpson
Kayla Wilhoit†
Madyson Wynn
Maria Prado
Annabel Perry†
Juliette Strope
Arslan Imran
Gracie Fischer
Alix Garcia
Trinity Garcia
Varun Potluri
Kate Saenz
Max Chin†
Sebastian Alves
Crystal Nava*

Peer Reviewed Manuscripts (number of reviews)

ABDO Publishing (1)
American Naturalist (1)
Annals of the New York Academy of Sciences (1)
Applications in Plant Science (2)
Axios (1)
BMC Genomics (1)
Cambridge University Press (1)
Cells (1)
European Journal of Entomology (1)
Evolution (5)
G3: Genes|Genomes|Genetics (1)
Genes (9)
Genetics (3)
Genome Biology and Evolution (8)
Genomes (1)
Genomics (2)
Heredity (6)
Intl Jrnl of Gynecology and Obstetrics Research (1)
Journal of Genetics and Genomics (1)
Journal of Heredity
    9 as reviewer
    22 as associate editor
Molecular Biology and Evolution (5)
Molecular Ecology Resources (2)
Myrmecological News (1)
Nature Scientific Reports (4)
New Phytologist (1)
PeerJ (2)
PLoS Genetics (1)
PLoS One (2)
Proceedings of the Royal Society B (3)
Systematic Biology (1)
Zoological Science (1)
Zoologic Journal of the Linaean Society (1)

Grant and Fellowship Reviews

NSF – GRFP panelist (43)
NSF – ad hoc reviewer (2)
Society for systematic biology (3)
Texas A&M Los Alamos National Laboratory Collaboration Program (1)
University of Texas at Arlington Biology Graduate Research Fund (8)
Faculty Development Leave TAMU (9)

Awards and Fellowships

2024 Genetics IDP Mentoring Award
2023 Texas Genetic Society Service Award
2022 Texas A&M Association of Former Students Teaching Award
2022 Texas A&M Student Worker Impact Award
2021 Institute of Data Science Career Initiation Fellow – Texas A&M – $10,000
2016 Outstanding presentation University of Minnesota postdoctoral seminar
Finalist James F. Crow early career researcher award – Genetics Society of America

2010-2015 Carrizo Oil and Gas Doctoral Student Fellowship – UT Arlington – $10,000
STEM Fellowship – UT Arlington – $104,000
2014 Learning Community Grant – UT Arlington – $500
Writing Fellowship – UT Arlington – $6,726
Eck Institute for Global Health Travel Grant – $600
2013 Excellence in Teaching Award – UT Arlington – $500
2012 NESCent Working Group Travel Funds – NSF – $2,300
Department Travel Grant UT Arlington – $1,125
2010 The Utley Graduate Fellowship – UT Arlington – $2,000

Professional Memberships

Genetics Society of America	American Genetics Association	Texas Genetics Society
Society for the Study of Evolution	Society of Systematic Biologists	American Society of Naturalist

Additional Training Completed

2016 Software Carpentry Instructor Training
2015 CIRTL Associate level certification in STEM teaching
2014 Bark Beetle Academy; University of Florida
2012 Bodega Phylogenetics Workshop; University of California Davis
2011 Geometric Morphometrics Workshop; University of Manchester

University Service †leadership role

2021-present	College level Graduate Instructional Committee
2020-present	Biology graduate program committee
2017-present	Aggie Vets who Code organizer and director †
2017-present	Biology Department Graduate Recruitment & Admissions Committee † (2020 Chair)
2022-2024	College of Arts and Sciences Research Advisory Council
2019-2024	TAMU Coffee Club faculty advisor †
2021-2022	Chaired TT Faculty search to successfully hire 5 faculty
2020	Undergraduate program committee
2020-2021	Texas A&M Taskforce for Women's Health and Sex Differences
2021	Student Research Week Oral Presentation Judge
2020-2021	Biology Department search committee for new department head
2020	Biology Department search committee for new head of IT
2020	Student Research Week Oral Presentation Judge
2020	College of Science search committee for new Director of IT
2018-2020	Genetics IDP outreach committee
2018-2020	Biology Department student and postdoc research conference committee † (2019 Chair)
2019-2020	Biology Department search committee for 3 faculty positions
2020	Committee for design of new biological sciences building
2018	Research presentation for TAMU Science Leadership Scholars Program

Professional Service †leadership role

2022-present	Associate Editor Journal of Heredity
2022-present	Chair Elect Ecology of Evolutionary Biology Interdepartmental Ph.D. Program
2018-present	Texas Genetics Society board member
2023-2024	President Texas Genetics Society†
2023 March	Introduction to R workshop at Texas Genetics Society meeting †
2022-2023	President Elect Texas Genetics Society
2022 March	Organized and taught Intro to R for biologists at Texas Genetics Society meeting †
2020	Texas Genetics Society poster and talk judge

2019	Evolution Conference poster judge
2019	Society for Systematic Biology Maximizing Human Diversity in Systematics Panel
2019 November	Organized and led R Hackday (40 graduate, 2 undergraduate, 2 faculty) †
2019	*Outreach talk: Success in graduate school;* Saint Edwards University; Department of Biology
2019 June	Midwest Phylogenetics Workshop (1 Week workshop)
2019 April	Organized and taught Intro to R for biologists at Texas Genetics Society meeting †
2019 March	Organized and led R Hackday (38 graduate, 3 undergraduate, 3 faculty) †
2018	Texas Genetics Society poster and talk judge
2016–2018	Genetics Society of America Board of directors – postdoctoral representative
2016	The Allied Genetics Conference GSA poster judge
	Reproducible Research in R - Software Carpentry Instructor: 4 hour module
2010–2015	Elementary and Middle School Hands on Science Programs †
	Scientific Inference - Fossils and Skeletons: 213 students
	Insects Adaptation: 69 students
2015-2016	Organize and facilitate the EvolTwin group (evolution group in the Twin Cities) †
2015	Software Carpentry Class at University of Texas at Arlington; assistant
	Organized and led reading group – Primary literature in undergraduate biology †
2012	Session Moderator for Annual Celebration of Excellence by Students Conference University of Texas at Arlington
2011	Judge for Undergraduate Research Posters at Louis Stokes Alliance for Minority Participation Conference