

## CURRICULUM VITAE

**Mallory A. Ballinger**

Department of Biology | Utah State University | 5305 Old Main Hill | Logan, UT 84321  
 email: mallory.ballinger@usu.edu | website: malloryaballinger.com | phone: (+1) 605.759.6829

**EDUCATION**

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2021 Ph.D. Integrative Biology, University of California, Berkeley  
 2015 M.S. Integrated Biosciences, University of Minnesota  
 2013 B.S. Biology, Black Hills State University (*magna cum laude*)

**ACADEMIC APPOINTMENTS**

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January 2024 **Provost New Faculty Fellow; Assistant Research Professor**  
 Department of Ecology & Evolutionary Biology, Cornell University  
 2022 – present **Postdoctoral Scholar**  
 Department of Biology, Utah State University

**PUBLICATIONS**

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*PREPRINTS*

- Durkin, S.M., **M.A. Ballinger** and M.W. Nachman. Tissue-specific and *cis*-regulatory changes underlie parallel, adaptive gene expression evolution in house mice. (*in revision*)  
 bioRxiv doi: [10.1101/2023.08.01.551413](https://doi.org/10.1101/2023.08.01.551413)
- Ravesloot-Chavez M.M., E. Van Dis, D. Fox, X.H. Nguyenla, S.L. Rawal, **M.A. Ballinger**, H. Thomas, D. Kotov, R. Vance, M.W. Nachman and S.S. Stanley. Tuberculosis susceptibility in genetically diverse mice reveals functional diversity of neutrophils. (*under review*)  
 bioRxiv doi: [10.1101/2023.06.29.547125](https://doi.org/10.1101/2023.06.29.547125)
- Dumont B.L., D. Gatti, **M.A. Ballinger**, D. Lin, M. Phifer-Rixey, M.J. Sheehan, T.A. Suzuki, L.K. Wooldridge, H. Opoku Frempong, G. Churchill, C. Lutz, N. Rosenthal, J.K. White and M.W. Nachman. Into the Wild: A novel wild-derived inbred strain resource expands the genomic and phenotypic diversity of laboratory mouse models. (*in prep*)  
 bioRxiv doi: [10.1101/2023.09.21.558738](https://doi.org/10.1101/2023.09.21.558738)

*PEER-REVIEWED*

9. **Ballinger M.A.\***, K.L. Mack\*, S.M. Durkin, E.A. Riddell and M.W. Nachman. 2023. Environmentally robust *cis*-regulatory changes underlie rapid climatic adaptation. *Proceedings of the National Academy of Sciences* 120(39): e2214614120. (\*equal contribution)
8. **Ballinger M.A.** and M.W. Nachman. 2022. The contribution of genetic and environmental effects to Bergmann's rule and Allen's rule in house mice. *The American Naturalist* 199(5): 691-704.
7. Beckman E.J. \*, F.M. Martins\*, T.A. Suzuki, K. Bi, S. Keeble, J.M. Good, A.S. Chavez, **M.A. Ballinger**, K. Agwamba and M.W. Nachman. 2022. The genomic basis of high elevation adaptation in wild house mice (*Mus musculus domesticus*) from South America. *Genetics* iyab226. (\*equal contribution)
6. Wilsterman K., **M.A. Ballinger** and C.M. Williams. 2021. A unifying, eco-physiological framework for animal dormancy. *Functional Ecology* 35(1): 11-31.

5. Mack K.L., **M.A. Ballinger**, M. Phifer-Rixey and M.W. Nachman. 2018. Gene regulation underlies environmental adaptation in house mice. *Genome Research* 28(11): 1636-1645.
4. **Ballinger M.A.** and M.T. Andrews. 2018. Nature's fat burning machine: brown adipose tissue in a hibernating mammal. *Journal of Experimental Biology* 221: jeb162586.
3. **Ballinger M.A.**, C. Schwartz and M.T. Andrews. 2017. Enhanced oxidative capacity of ground squirrel brain mitochondria during hibernation. *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology* 312(3): R301-R310.
2. **Ballinger M.A.**, C. Hess, M.W. Napolitano, J.A. Bjork and M.T. Andrews. 2016. Seasonal changes in brown adipose tissue mitochondria in a mammalian hibernator: from gene expression to function. *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology* 311(2): R325-R336.
1. Schwartz C., **M.A. Ballinger** and M.T. Andrews. 2015. Melatonin receptor signaling contributes to neuroprotection upon arousal from torpor in the thirteen-lined ground squirrel. *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology* 309(10): R1292-1300.

*NON-REFEREED*

- **Ballinger M.A.** and M.A.F. Noor. 2018. Are lethal alleles too abundant in humans? *Trends in Genetics* 34(2): 87-89.

**GRANTS, AWARDS, & FELLOWSHIPS**


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2021	Department of Integrative Biology Dissertation Completion Award	\$2,500
2020-2021	UC Berkeley Philomathia Graduate Fellowship	\$40,000
2019-2020	Department of Integrative Biology Summer Research Grants	\$3,675
2019	Museum of Vertebrate Zoology Junea W. Kelly Fellowship	\$12,500 + tuition
2018-2020	Museum of Vertebrate Zoology Wilhelm L.F. Martens Funds	\$3,000
2015-2018	National Science Foundation Graduate Research Fellowship	\$102,000 + tuition
2018	American Society of Mammalogists Grant-in-Aid of Research	\$1,500
2017	UC Berkeley Student Mentoring and Research Teams (SMART)	\$2,000
	Museum of Vertebrate Zoology Albert P. Hendrickson Fund	\$1,500
2016	Society for the Study of Evolution Rosemary Grant Research Award	\$2,000
	Museum of Vertebrate Zoology Carl B. Koford Fund	\$2,000
2015	The Company of Biologists Scientific Meeting Grant	\$2,300
	American Physiological Society Scholander Award Nominee	
2011-2013	South Dakota Biomedical Research Infrastructure Network Fellowship	\$24,000

**PROFESSIONAL PRESENTATIONS***INVITED SEMINARS*

- 2023 Utah State University — Dept. Animal, Dairy, & Veterinary Sciences (Nov.)  
 Cornell University — Dept. Ecology & Evolutionary Biology  
 Iowa State University — Dept. Ecology, Evolution, & Organismal Biology  
 University of Nebraska-Lincoln — School of Biological Sciences

*CONTRIBUTED PRESENTATIONS*

- 2023 Society for the Study of Evolution — Albuquerque, NM  
 2022 Population, Evolutionary, and Quantitative Genetics — Pacific Grove, CA  
 2019 American Society of Mammalogists — Washington, DC  
 Society for the Study of Evolution — Providence, RI

	Society for Integrative and Comparative Biology — Tampa, FL
2018	Population, Evolutionary, and Quantitative Genetics — Madison, WI
	Society for Integrative and Comparative Biology — San Francisco, CA
2016	Society for the Study of Evolution — Austin, TX
2015	Society for Experimental Biology — Boston, MA

## TEACHING EXPERIENCE

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### TEACHING ASSISTANT

2021	Cal Genomics, UC Berkeley
2020	Mammalogy, UC Berkeley
2019	Human Reproduction, UC Berkeley
2018	Mammalogy, UC Berkeley
2015	Molecular Biology, UM Duluth
2014	General Biology, UM Duluth

### GUEST LECTURER

2019	Neurozoology, UC Berkeley
2018	Mammalogy, UC Berkeley

## TRAINING & MENTORING

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2019-2020	Tiffany Chu, URAP undergraduate, UC Berkeley
2018-2019	Nicole Hoang, URAP undergraduate, UC Berkeley
2017	Joie Lin, SMART undergraduate, UC Berkeley
2014-2015	Alexandra Theis, UROP undergraduate, UM Duluth
2013-2014	Charles Sieberg, UROP undergraduate, UM Duluth

## LEADERSHIP & SERVICE

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### AD HOC REVIEWER FOR SCIENTIFIC JOURNALS

*American Journal of Physiology, Evolution, Integrative and Comparative Biology, Journal of Zoology, PeerJ, Physiological and Biochemical Zoology, Proceedings of the Royal Society B*

### AD HOC REVIEWER FOR GRANTS

French National Research Agency (2022)

### NATIONAL/INTERNATIONAL SERVICE

Organizer, Hibernation 3.0 Regional Conference. Duluth, MN, USA. (June 3-5, 2015)

### INSTITUTIONAL SERVICE

Member, Museum of Vertebrate Zoology DEI working group (2020-2021)

### SOCIETY MEMBERSHIPS

Genetics Society of America (GSA), American Genetic Association (AGA), American Society of Mammalogists (ASM), American Society of Naturalists (ASN), Society for the Study of Evolution (SSE), Society for Integrative & Comparative Biology (SICB), American Physiological Society (APS)

### SELECTED OUTREACH

Tour Guide, Museum of Vertebrate Zoology (UC Berkeley, 2016-2020)  
 Museum of Vertebrate Zoology Cal Day volunteer (UC Berkeley, 2016-2020)  
 Mentor, "Be A Scientist", Willard Middle School (Berkeley, CA, 2016)