

# Mallory A. Ballinger

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## EDUCATION & PROFESSIONAL EXPERIENCE

2022 – present	Postdoctoral Fellow – Department of Biology, Utah State University
2015 – 2021	Ph.D. – <i>Integrative Biology</i> , University of California, Berkeley
2013 – 2015	M.S. – <i>Integrated Biosciences</i> , University of Minnesota
2009 – 2013	B.S. – <i>Biology</i> , Black Hills State University ( <i>magna cum laude</i> )

## GRANTS & AWARDS

2021	Dissertation Completion Award, Department of Integrative Biology (\$2,500)
2020 – 2021	Philomathia Graduate Fellowship, UC Berkeley (\$40,000)
2019 – 2020	Department of Integrative Biology Summer Research Grants (\$3,675)
2019	Junea W. Kelly Fellowship, Museum of Vertebrate Zoology (\$12,500 + tuition)
2018 – 2020	Wilhelm L.F. Martens Funds, Museum of Vertebrate Zoology (\$3,000)
2018	Grant-in-Aid of Research, American Society of Mammalogists (\$1,500) Museum of Vertebrate Zoology Student Travel Fund (\$500)
2015 – 2018	National Science Foundation Graduate Research Fellowship (\$102,000 + tuition)
2017	Albert P. Hendrickson Fund, Museum of Vertebrate Zoology (\$1,500) Student Mentoring and Research Teams (SMART), UC Berkeley (\$2,000)
2016	Rosemary Grant Award, Society for the Study of Evolution (\$2,000) Department of Integrative Biology GRAC Research Grant (\$300) Carl B. Koford Fund, Museum of Vertebrate Zoology (\$2,000) Department of Integrative Biology GRAC Travel Award (\$250) UC Berkeley Conference Travel Award (\$550) UC Berkeley Graduate Assembly Travel Award (\$300)
2015	Scientific Meeting Grant, The Company of Biologists (\$2,300) Graduate Women in Science Travel Award, Xi Chapter (\$100) Dr. Dolittle Travel Award, American Physiological Society (\$585) Scholander Award Nominee, American Physiological Society Intersociety Meeting Travel Award, American Physiological Society (\$300) Integrated Biosciences Travel Award, Univ. Minnesota (\$500) University of Minnesota Duluth SCSE Student Travel Award (\$400) Small Grant-in-Aid of Conference Travel Award, Univ. Minnesota Duluth (\$400)
2011 – 2013	South Dakota Biomedical Research Infrastructure Network Fellowship (\$24,000)

## PUBLICATIONS

10. **Ballinger MA\***, Mack KL\*, Durkin SM, Riddell EA, Nachman MW (*in revision*). Environmentally robust *cis*-regulatory changes underlie rapid climatic adaptation. bioRxiv doi: [10.1101/2022.08.29.505745](https://doi.org/10.1101/2022.08.29.505745) (\*denotes equal contribution)

9. **Ballinger MA**, Nachman MW (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.
8. Beckman EJ, Martins FM, Suzuki TA, Bi K, Keeble S, Good JM, Chavez AS, **Ballinger MA**, Agwamba K, Nachman MW (2022). The genomic basis of high elevation adaptation in wild house mice (*Mus musculus domesticus*) from South America. *Genetics* iyab226.
7. Wilsterman K, **Ballinger MA**, Williams CM (2021). A unifying, eco-physiological framework for animal dormancy. *Functional Ecology* 35(1): 11-31.
6. **Ballinger MA**, Noor MAF (2018). Are lethal alleles too abundant in humans? *Trends in Genetics* 34(2): 87-89.
5. Mack KL, **Ballinger MA**, Phifer-Rixey M, Nachman MW (2018). Gene regulation underlies environmental adaptation in house mice. *Genome Research* 28(11): 1636-1645.
4. **Ballinger MA**, Andrews MT (2018). Nature's fat burning machine: brown adipose tissue in a hibernating mammal. *Journal of Experimental Biology* 221: jeb162586.
3. **Ballinger MA**, Schwartz C, Andrews MT (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 MA**, Hess C, Napolitano MW, Bjork JA, Andrews MT (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, **Ballinger MA**, Andrews MT (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.

## PROFESSIONAL PRESENTATIONS

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### *Invited Seminars*

2023 Iowa State University - Dept. Ecology, Evolution, and Organismal Biology (Apr)

### *Contributed Presentations*

2022 Population, Evolutionary, and Quantitative Genetics – Pacific Grove, CA. (talk)

2019 American Society of Mammalogists – Washington, DC. (talk)

Society for the Study of Evolution – Providence, RI. (talk)

Society for Integrative and Comparative Biology – Tampa, FL. (poster)

2018 Population, Evolutionary, and Quantitative Genetics – Madison, WI. (poster)

Society for Integrative and Comparative Biology – San Francisco, CA. (poster)

2016 Society for the Study of Evolution – Austin, TX, U.S.A. (poster)

2015 Experimental Biology – Boston, MA. (talk)

## TEACHING & MENTORSHIP

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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 Lecture**

2019 Neurozoology, UC Berkeley

2018 Mammalogy, UC Berkeley

**Mentor**

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

## SYNERGISTIC ACTIVITIES

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**Development:** SMART Graduate Mentor: 10-week summer program in which top graduate students create mentored research opportunities for promising undergraduates. This program broadens the professional development of doctoral students and fosters research skills and pathways to advanced studies and professional careers for undergraduates.

(Summer 2017, UC Berkeley)

Mentoring in Higher Education: Seminar to introduce graduate students to the role of mentoring in U.S. higher education, help guide graduate students as they mentor undergraduates at Berkeley, work in the context of a mentoring relationship with their graduate advisers and prepare for the mentoring they will do in future academic and non-academic careers.

(Spring 2017, UC Berkeley)

Teaching Colloquium: Semester long course focusing on professional development as an instructor and potential tenure-track faculty member. (Fall 2015, UC Berkeley)

**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)

**Outreach:** Tour Guide, Museum of Vertebrate Zoology (UC Berkeley, 2016-2020)  
Museum of Vertebrate Zoology Cal Day volunteer (UC Berkeley, 2016-2020)  
Judge, Madera Elementary School Science Fair (El Cerrito, CA, 2019-2020)  
Judge, Sequoia Elementary School Science Fair (Oakland, CA, 2018)  
Mentor, "Be A Scientist", Willard Middle School (Berkeley, CA, 2016)  
UM Duluth Bulldog Science Day Volunteer (Duluth, MN, 2014)  
Judge, Northeast Minnesota Regional Science Fair (Duluth, MN, 2014)

**Peer review:** *American Journal of Physiology, Evolution, Frontiers in Ecology and Evolution, Integrative and Comparative Biology, Journal of Zoology, PeerJ, Physiological and Biochemical Zoology, Proceedings of the Royal Society B*

**Service:** Member, Museum of Vertebrate Zoology DEI working group (2020-2021)  
Student Ambassador, Museum of Vertebrate Zoology (2018-2019)  
Organizer, Hibernation 3.0 Regional Conference, Duluth, MN (June 3-5, 2015)