Melissa Kiley Drown
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EDUCATION

University of Miami, Evolutionary Genetics, Ph.D. 2023
University of Minnesota, Ecology, Evolution, and Behavior, B.S. 2018

RESEARCH EXPERIENCE

Postdoctoral Fellow, University of Minnesota, advisor: Dr. Suzanne McGaugh	February 2023
Graduate Researcher, University of Miami, advisors: Dr. Douglas Crawford and Dr. Marjorie Oleksiak	2018 - 2023
Undergraduate Research, University of Minnesota, advisor: Dr. Christopher Faulk	2015 - 2018
Hollings Fellow, National Oceanic and Atmospheric Administration, advisor: Dr. Christopher Chambers	2017
Undergraduate Research, University of Minnesota, advisor: Dr. Mark Herzberg	2014

RESEARCH PUBLICATIONS

*Co-first authors
⁺Undergraduate student authors

Flack N., **Drown M.K.**, Walls C., Pratte J., McLain A., Faulk C. *Chromosome-level, nanopore-only genome and allele-specific DNA methylation of Pallas's cat, Otocolobus manul*. In review, 2022.

DeLiberto A.N., **Drown M.K.**, Ehrlich M.A., Oleksiak M.F., and Crawford D.L. *Feeling the heat: Variation in thermal sensitivity within and among populations.* Published 2022.
https://journals.biologists.com/jeb/article/225/21/jeb244831/282116/Feeling-the-heat-variation-in-thermal-sensitivity

Drown M.K.*, DeLiberto A.N*., Flack N, Proefroeck J.⁺, Westover A.⁺, Doyle M.⁺, Heilshorn S.⁺, D'Alessandro E., Crawford D.L., Faulk C., and Oleksiak M.F. *Sequencing bait: Nuclear and mitogenome assembly of an abundant coastal subtropical fish, Atherinomorus stipes.* Published 2022.
https://academic.oup.com/gbe/article/14/8/evac111/6648392

Drown M.K., Crawford D.L., and Oleksiak M.F. *Transcriptomic analysis provides insights into molecular mechanisms of thermal physiology.* BMC genomics. Published 2022.
https://bmcgenomics.biomedcentral.com/articles/10.1186/s12864-022-08653-y

Drown M.K., DeLiberto A.N., Ehrlich M.A., Crawford D.L., and Oleksiak M.F. (2021). *Interindividual variation in metabolic and thermal tolerance traits from populations subjected to recent anthropogenic heating*. Royal Society Open Science. Published 2021.
https://royalsocietypublishing.org/doi/10.1098/rsos.210440

Traylor-Knowles N., Connelly M.T., Young B.D., Eaton K., Muller E.M., Paul V.J., Ushijima B., DeMerlis A., **Drown M.K.**, Goncalves A., Kron N. (2021). *Gene Expression Response to Stony Coral Tissue Loss Disease Transmission in M. cavernosa and O. faveolata From Florida.* Frontiers in Marine Science. Published 2021. (Press release below).
https://www.frontiersin.org/articles/10.3389/fmars.2021.681563/full

Drown M.K., DeLiberto A.N., Crawford D.L., and Oleksiak M.F. *An innovative setup for high-throughput respirometry of small aquatic animals.* Frontiers in Marine Science. Published 2020. https://www.frontiersin.org/articles/10.3389/fmars.2020.581104/full

Colwell M, Wanner N, **Drown M.K.**, Drown C, Borchers A, Faulk C. *Paradoxical whole genome DNA methylation dynamics of 5'aza-deoxycytidine in chronic low-dose exposure in mice*. Epigenetics. Published 2020.
https://www.tandfonline.com/doi/full/10.1080/15592294.2020.1790951

Colwell M, **Drown M.K.**, Showel K, Drown C, Borchers A, Faulk C. *Evolutionary Conservation of Methylation in CpG Sites within Ultraconserved Non-Coding Elements.* Published 2018.
https://www.tandfonline.com/doi/full/10.1080/15592294.2017.1411447

AWARDS and HONORS

Genetics Peer Review Training Program – selected participant	2023
Teaching Assistant Excellence Award	2022
Genetics Society of America DeLill Nasser Travel Award for Professional Development in Genetics ($1000)	2022
Best Departmental Student Talk	2021
Graduate Student Excellence in Academics, Leadership, and Service (overall winter, $1200)	2021
Runner-Up Best Departmental Student Talk	2020
Genetics Society of America Presidential Membership Initiative ($150 equivalent)	2020
University of Washington Summer in Statistical Genetics Scholar ($600)	2020
AQUA Foundation for LGBT+ Women Scholarship Recipient ($13,500 total)	2019, 2020, 2021
Honorable Mention National Science Foundation Graduate Fellow	2018
Environmental Mutagenesis and Genomics Society Travel Award ($750-875)	2018, 2019, 2022
U of MN President's Student Leadership and Service Award	2018
Outstanding Oral Presentation at NOAA Hollings Scholar Symposium	2017
Grace Klein-MacPhee Graduate Student Travel Grant ($500)	2017
College of Biological Sciences Travel Award ($500)	2017
NOAA Hollings Scholarship Program ($30,000 equivalent)	2016
Undergraduate Research Opportunity Project Funding ($3,000)	2016
David Larson Scholarship Recipient ($5,000/year)	2014, 2015, 2016, 2017

FUNDED GRANTS

2023	National Science Foundation Postdoctoral Research Fellowship in Biology PI: Melissa K. Drown, Sponsors: Suzanne McGaugh and Johanna Kowalko "Pleiotropic role and fitness consequences of single genes in *Astyanax mexicanus*"	$138,000
2020	David Rowland Graduate Research Fellowship "Phenotypic and genotypic response of *Fundulus heteroclitus* to thermal variation" I was sole PI on this grant.	$3500
2020	Graduate Student Professional Development Fund MBE Department Coding Club wrote this grant	$2000
2015	Undergraduate Research Opportunity Project "DNA Methylation in selectively bred and natural bovine populations" I was sole PI on this grant.	$3000

TEACHING

Graduate Teaching Assistant, Saltwater Semester Marine Genomics with Lab	Fall 2021
Graduate Teaching Assistant, Introduction to Marine Science Lab	Fall 2020
Undergraduate Teaching Assistant, Zoology and Animal Diversity Lab	Fall 2016-Spring 2018

ACADEMIC SERVICE

Departmental Student Representative: Diversity, Equity, and Inclusion Task Force	2021
Mentor: Graduate/Undergraduate Mentorship Program	2020-2022
Genetics Society of America Early Career Leadership Program Career Development	2021, 2022

PRESENTATIONS (LISTED FIRST-AUTHOR PRESENTATIONS ONLY)

Drown M.K., Flack N, Crawford D.L., Oleksiak M.F., Faulk C. *Nanopore sequencing utility in environmental epigenetics*. Poster. International Conference on Environmental Mutagens.

Drown M.K., Oleksiak M.F., and Crawford D. L. *mRNA expression explains metabolic and thermal tolerance trait variation*. Poster. Population, Evolutionary, and Quantitative Genetics. 2022.

Drown M.K., DeLiberto A.N., Ehrlich M.A., Dayan D, Oleksiak M.F., Crawford D.L. *Hot populations: Acclimation and Adaptation in Fundulus heteroclitus.* Oral Presentation. Gordon Conference on Ecological and Evolutionary Genomics. 2019.

Drown M.K., DeLiberto A.N., Ehrlich M.A., Dayan D, Oleksiak M.F., Crawford D.L. *Adaptation to Rapidly Changing Environmental Temperature.* Poster. Gordon Seminar on Ecological and Evolutionary Genomics. 2019.

Drown M.K., Colwell M, Drown C, Faulk C. *Epigenetic Changes in Avy Mice in Response to Chronic Decitabine Exposure.* Poster and Oral Presentation. Environmental Mutagenesis and Genomics Society Meeting. 2018.

Drown M.K., Boyce D, Habeck E, Chambers RC. *A New Approach to Ocean Acidification Research: Design and Testing of a High-frequency CO_2 System .* Poster. Ocean Sciences Meeting. 2018.

Drown M.K., Boyce D, Habeck E, Chambers RC. *A New Approach to Ocean Acidification Research: Design and Testing of a High-frequency CO_2 System .* Oral Presentation. NOAA Hollings Scholar Symposium. 2017.

Drown M.K., Boyce D, Habeck E, Chambers RC. *A New Apparatus for Response Plasticity to Ocean Acidification.* Poster. Larval Fish Conference. 2017.

POPULAR PRESS

Mentoring LGBTQ+ Students in STEM. American Society for Cell Biology LGBTQ+ Committee blog series. Invited perspective. August 2021.

News at the U: Study finds gene role in immune response of Florida corals to rapidly spreading disease**.** Co-author on featured publication. July 2021.

Life Her Way Podcast: Women in STEM. Featured interview. April 2021.

University of Miami LGBTQ+ Student Spotlight. Featured interview. October 2020.

Our Changing Ocean: The Chemistry, the Questions, and the Students Answering Them. *In Chemistry*. Featured interview. April 2018.