

Jessica L. Malisch*Curriculum vitae*

St. Mary's County Health Department
Office of Research and Epidemiology
21580 Peabody Street
Leonardtown, MD 20650
Ph. (951) 500-4907
<https://sites.google.com/smcm.edu/themalischlab/>

48645 Saint James Church Rd
Lexington Park, MD 20653
(951)500-4907
jessica.l.malisch@gmail.com

EDUCATION AND TRAINING

University of North Carolina, Wilmington	Biology (honors in biology)	B.S.	1999
University of California, Riverside	Biology	Ph.D.	2007
University of Montana		Post-doc	2008-10

ACADEMIC APPOINTMENTS

2020-Current	Affiliated Faculty, St. Mary's College of Maryland, Department of Biology		
2016-2020	Assistant Professor, St. Mary's College of Maryland, Department of Biology		
2014-2016	Visiting Assistant Professor, The Claremont Colleges, Keck Science Department		
2010-2012	Visiting Assistant Professor, The Claremont Colleges, Keck Science Department		
2008-2010	NSF-funded Postdoctoral Scholar, University of Montana		
2008	Post-Graduate Researcher, Saltzman Lab, University of California		

TEACHING EXPERIENCE**St. Mary's College of Maryland**

- Human Physiology with Lab (1 semester)
- Comparative Animal Physiology and Lab (3 semesters)
- First Year Seminar: Stress & the Science of Chilln' (2 semesters)
- Principles of Biology I Lab (1 semester)
- Principles of Biology II (3 semesters)
- Principles of Biology II Lab (3 semesters)
- Contemporary Bioscience and Lab: Biology of Stress (1 semester)

The Claremont Colleges

- Vertebrate Physiology and Lab (7 semesters)
- Genetics (2 semesters)
- Introductory Biology Lab (1 semester)

University of California, Riverside

- Genetics (1 semester)
- History of Infectious Disease (1 semester)

PUBLICATIONS

*indicates undergraduate researchers

- In revision Bowlin, M.S., **J.L. Malisch**, and C.W. Breuner. Wing pointedness is correlated with early arrival, but not better condition, at a breeding site. *Journal of Field Ornithology*.
- 2020 **Malisch, J.L.**, Harris, . Gender Equity in Academia Post-COVID-1: Challenges and Opportunities. *Proceedings of the National Academy of Sciences* Accepted.
- 2020 Breuner, C.W., H. Beyl, and **J.L. Malisch**. Corticosteroid Binding Globulins: lessons from biomedical research. *Molecular and Cellular Endocrinology* Accepted.
- 2020 Grant, A., D. Baldan, M. Kimball*, **J.L. Malisch**, and J. Ouyang. Across time and space: Hormonal variation across temporal and spatial scales in relation to nesting success. *General and Comparative Endocrinology* 292:113462.
- 2020 **Malisch, J.L.**, L. Claggett*, L. Stevenson*, H.B. John-Alder, and T. Garland Jr. Baseline corticosterone varies with proximity to a high traffic road and body condition in Desert Iguanas (*Dipsosaurus dorsalis*). *General and Comparative Endocrinology* 292:113468.
- 2018 **Malisch, J.L.**, D.A. Bennett*, B.A. Davidson*, Wenker, E. *, Suzich, R*., and E.E. Johnson. Stress hyperglycemia in White-throated and White-crowned sparrows: A new technique for rapid glucose measurement in the field. *Physiological and Biochemical Zoology* 91:943-949.
- 2018 Calisi, R. and **Working Group of Mothers in Science**. The Childcare-Conference Conundrum and how to solve it. *Proceedings of the National Academy of Sciences*. 115: 2845-2849.
- 2017 Kelly, S.A., F.R. Gomes, E.M. Kolb, **J.L. Malisch**, and T. Garland Jr. Effects of activity, genetic selection, and their interaction on muscle metabolic capacities in mice. *Journal of Experimental Biology*. 220:1038-1047.
- 2016 **Malisch, J.L.**, K.S. de Wolski*, T.H Meek, W. Acosta, K.M. Middleton, O.L. Crino, and T. Garland Jr.. Acute restraint stress alters wheel-running behavior immediately following and up to 20 hour later in house mice. *Physiological and Biochemical Zoology*. 89:546-552.
- 2014 Kelly, S.A., E.L. Rezende, M.A. Chappell, F.R. Gomes, E.M. Kolb, **J.L. Malisch**, J.S. Rhodes, G.S. Mitchell, and T. Garland Jr. Exercise training effect on hypoxic and hypercapnic ventilatory responses in mice selected for increased voluntary wheel running. *Experimental Physiology*. 99: 403-413.
- 2013 Waters, R.P., R.B. Pringle, G.L. Forster, K.J. Renner, **J.L. Malisch**, T. Garland Jr., and J.G. Swallow.. Selection for increased wheel-running affects behavior and brain monoamines in mice. *Brain Research*. 1508: 9-22.

- 2012 Downs, C.J., H. Schutz, T.H. Meek, E.M. Dlugosz, W. Acosta, K.S. de Wolski*, **J.L. Malisch**, J.P. Hayes, and T Garland Jr. 2012. Within life-time trade-offs but evolutionary freedom from hormonal and immunological traits: evidence from mice bred for high voluntary exercise. *Journal of Experimental Biology*. 215: 1651-1661.
- 2011 Crino, O.L., B.K. Van Oorschot*, E.E. Johnson*, **J.L. Malisch**, and C.W. Breuner. Proximity to a high traffic road: Glucocorticoid and life history consequences for nestling white-crowned sparrows. *General and Comparative Endocrinology*. 173: 323-332.
- 2011 Chauke, M., **J.L. Malisch**, C. Robinson*, T.R. de Jong, and W. Saltzman. Effects of reproductive status on behavioral and endocrine responses to acute stress in a biparental rodent, the California mouse (*Peromyscus californicus*). *Hormones and Behavior* 60: 128-138.
- 2011 Garland, T., Jr., S.A. Kelly, **J.L. Malisch**, E.M. Kolb, R.M. Hannon, B.K. Keeney, and S.L. Van Cleave*. How to run far: Multiple solutions and sex specific responses to selective breeding for high voluntary activity levels. *Proceedings of the Royal Society B* 278: 574-581.
- 2010 Schmidt, K., **J.L. Malisch**, C.W. Breuner, and K.K. Soma. Corticosterone and cortisol binding sites in plasma, immune organs, and brain of developing zebra finches: intracellular and membrane-associated receptors. *Brain, Behavior, and Immunity* Aug 24:908-918.
- 2010 **Malisch, J.L.**, and C.W. Breuner. Steroid-binding proteins in birds. *Cellular and Molecular Endocrinology* 316: 42-52.
- 2010 **Malisch, J.L.**, D.G. Satterlee, J.F. Cockrem, H. Wada, and C.W. Breuner. How acute is the acute stress response? Baseline corticosterone and corticosterone-binding globulin levels changes 24 hours after an acute stressor in Japanese quail. *General and Comparative Endocrinology* 165: 345-350.
- 2009 **Malisch, J.L.**, S.A. Kelly, A. Bhanvadia*, K.M. Blank*, R.L. Marsik, E.G. Platzer and T. Garland Jr.. Lines of mice with chronically elevated baseline corticosterone levels are more susceptible to a parasitic nematode infection. *Zoology* 112: 316-324.
- 2009 **Malisch, J.L.**, C.W. Breuner, E.M. Kolb, H. Wada, R.M. Hannon, M.A.Chappell, K.M. Middleton, and T. Garland Jr.. Behavioral despair and home-cage activity in mice with chronically elevated baseline corticosterone concentrations. *Behavior Genetics* 39: 192-201.
- 2009 Gomes, F.R., E.L. Rezende, **J.L. Malisch**, S.K. Lee, D.K. Rivas, S.A. Kelly, C. Lytle, B.B. Yaspelkis, and T. Garland Jr. Glycogen storage and muscle glucose transporters (GLUT-4) of mice selectively bred for high voluntary wheel running. *Journal of Experimental Biology* 212:238-248.

- 2008 Yan, R.H., **J.L. Malisch**, R.M. Hannon, D.I. Kolb, P.L. Hurd, and T. Garland, Jr. Selective breeding for a behavioral trait changes digit ratio. *PLoS ONE* 3: e3216.doi:10.1371/journal.pone003216.
- 2008 **Malisch, J.L.**, C.W. Breuner, F.R. Gomes, M.A. Chappell, and T. Garland Jr.. Circadian pattern of total and free corticosterone concentrations, corticosteroid-binding globulin, and physical activity in mice selectively bred for high voluntary wheel-running behavior. *General and Comparative Endocrinology* 156: 210-217.
- 2007 **Malisch, J.L.**, W. Saltzman, F.R. Gomes, E.L. Rezende, D. Jeske, and T. Garland Jr. Baseline and stress-induced plasma corticosterone of mice selectively bred for high voluntary wheel running. *Physiological and Biochemical Zoology* 80:146-156.
- 2006 Rezende, E.L., T. Garland, Jr., M.A. Chappell, **J.L. Malisch**, and F.R. Gomes. Maximum aerobic performance in lines of *Mus* selected for high wheel-running activity: effects of selection, oxygen availability, and the mini-muscle phenotype. *Journal of Experimental Biology* 209:115-127.
- 2006 Rezende, E.L., F.R. Gomes, **J.L. Malisch**, M.A. Chappell, and T. Garland, Jr. Maximal oxygen consumption in relation to subordinate traits in lines of house mice selectively bred for high wheel running. *Journal of Applied Physiology* 101:477-485.
- 2005 Rezende, E.L., M.A. Chappell, F.R. Gomes, **J.L. Malisch**, and T. Garland, Jr. Maximal metabolic rates during voluntary exercise, forced exercise, and cold exposure in house mice selectively bred for high wheel-running. *Journal of Experimental Biology* 208:2447-2458.

Abstracts/Conference Presentations

Note: List truncated to 2017, complete list of 35 at <https://sites.google.com/smcm.edu/themalischlab/>

- 2020 **Malisch, J.L.**, T.P Hahn, and C.W. Breuner. Should I Stay Or Should I Go Now? Predictors of Facultative Altitudinal Migration in Mountain White-crowned Sparrows (*Zonotrichia leucophrys oriantha*). Society for Integrative and Comparative Biology. Annual Meeting. Austin, Texas.
- 2020 Kimball, M.G. *, Grant, A.R. Chrisler, A.D. *, Johnson, E, and **J.L. Malisch**. Acute Stress Mobilizes Glucose and Free Fatty Acids in Mountain Dark-eyed Juncos (*Junco hyemalis*). Society for Integrative and Comparative Biology. Annual Meeting. Austin, Texas.
- 2020 Chrisler, A.D. *, Antunes, I.K. *, Kimball, M.G. *, and , **J.L. Malisch**. Modeling glucocorticoid physiology, glucose mobilization, and return rate in migrating Mountain White-crowned Sparrows (*Zonotrichia leucophrys oriantha*). Society for Integrative and Comparative Biology. Annual Meeting. Austin, Texas.
- 2020 Antunes, I.K. *, Johnson, E.B. *, Mertz, P.S., and **J.L. Malisch**. Development of an Enzyme Linked Immunosorbent Assay for Avian Corticosterone Binding Globulin. Society for Integrative and Comparative Biology. Annual Meeting. Austin, Texas.

- 2019 Borda, E., Nkomo, S., Toering-Peters, S., and **J.L. Malisch**. Leading Change Together: Forming a network of STEM education leaders. American Association of Colleges and Universities: Transforming STEM Higher Education. Annual Meeting. Chicago, Illinois.
- 2019 Chrisler, A. *, Grant, M.G. Kimball*, D. Capasso*, E.E. Johnson, and **J.L. Malisch**. Predictors of glucocorticoid and glucose mobilization in response to an acute handling challenge in Mountain White-crowned Sparrows (*Zonotrichia leucophrys oriantha*). Society for Integrative and Comparative Biology. Annual Meeting. Tampa, Florida.
- 2019 Grant, A.W., **J.L. Malisch**, M.G. Kimball*, and J. Ouyang. Glucocorticoid physiology, territory size and number of chicks fledged: Untangling the relationship between corticosterone and reproductive success. Society for Integrative and Comparative Biology. Annual Meeting. Tampa, Florida.
- 2019 Kimball, M.G. *, A. Chrisler*, A.W. Grant, and **J.L. Malisch**. Acute stress and glucose mobilization in Mountain Dark-eyed Juncos (*Junco hyemalis*). Society for Integrative and Comparative Biology. Annual Meeting. Tampa, Florida.
- 2019 Benowitz-Fredericks, Z.M., P.B. Caine*, **J.L. Malisch**, K.M. Edwards*, and S.A. Hatch. Acute administration of exogenous corticosterone in seabird chicks rapidly mobilizes lipids but not glucose. Society for Integrative and Comparative Biology. Annual Meeting. Tampa, Florida.
- 2018 Johnson, E.B. *, I.K. Antunes*, **J.L. Malisch**, and P. Mertz. Developing an ELISA for Avian Corticosterone Binding Globulin. American Society for Biochemistry and Molecular Biology Annual Meeting. San Diego, California.
- 2018 Grifo-Hahn, L.L. *, Kimball, M. *, Rudy, M. *, Johnson, E.E., Bennett, D.A. *, Breuner, C.W., and **J.L. Malisch**. Facultative Altitudinal Migration and Glucocorticoid Physiology in White-crowned Sparrow. Society for Integrative and Comparative Biology. Annual Meeting. San Francisco, California.
- 2018 Davidson, B.A. *, Wenker, E. *, and **J.L. Malisch**. Fat Score Predicts Acute Stress-induced Hyperglycemia in White-throated Sparrows. Society for Integrative and Comparative Biology. Annual Meeting. San Francisco, California.
- 2017 Wenker, E. *, B.A. Davidson*, D.A. Bennett*, E.E. Johnson*E. Decavel-Bueff*, and **J.L. Malisch**. Glucocorticoid physiology and trap-philia in White-crowned Sparrows. National Conference on Undergraduate Research. Annual Meeting. Memphis, Tennessee.
- 2017 Davidson, B.A. *, E. Wenker*, D.A. Bennett*, E.E. Johnson*E. Decavel-Bueff*, and **J.L. Malisch**. Biological relevance of glucocorticoid state in characterizing stress hyperglycemia. National Conference on Undergraduate Research. Annual Meeting. Memphis, Tennessee.
- 2017 Bennett, D.A. * E.E. Johnson*, E. Wenker*, E. Decavel-Bueff*, B. Davidson*, and **J.L. Malisch**. Acute stress and hyperglycemia in White-crowned Sparrows. Society for Integrative and Comparative Biology. Annual Meeting. New Orleans, Louisiana.

INVITED SEMINARS

- 2021 University of Manitoba, Manitoba, Canada
- 2021 American Association of University Women, Washington D.C.
- 2020 European Microbiology Laboratory, Heidelberg, Germany
- 2018 Towson University, Towson MD
- 2017 Mono Lake Committee – Outdoor experiences program, Lee Vining CA
- 2016 Mono Lake Committee – Outdoor experiences program, Lee Vining CA
- 2015 Mono Lake Committee – Outdoor experiences program, Lee Vining CA
- 2014 Mono Lake Committee – Outdoor experiences program, Lee Vining CA
- 2011 University of California Riverside, Riverside CA
- 2011 Harvey Mudd College, Claremont CA
- 2010 Mono Lake Committee, Lee Vining CA

GRANTS, FELLOWSHIPS, AND AWARDS - AWARDED TO JLM

- 2019 Council on Undergraduate Research, Biology Research Mentor of the Year
- 2019 NSF: Major Research Instrumentation Grant, Co-PI (\$121,819)
- 2019 American Association of University Women, American Fellow (\$31,500)
- 2018 Faculty development grant, St. Mary's College of Maryland (\$2,100)
- 2017 Faculty development grant, St. Mary's College of Maryland (\$2,600)
- 2016 Faculty development grant, St. Mary's College of Maryland (\$585)
- 2016 Summer Research Allotment from Scripps College HHMI Grant (\$8,000 – includes Summer salary, 1 undergraduate student fellowship, and research funds)
- 2015 Summer Research Allotment, Scripps College HHMI Grant (\$16,000 – includes summer salary, 2 undergraduate student fellowships, and research funds)
- 2011-15 Keck Mini Grant (\$4,000), Claremont Colleges
- 2006-07 Dissertation Year Fellowship, UC Office of the President, University of California
- 2002- 07 Dean's Fellowship Recipient, University of California
- 2003-04 GAANN Fellowship Recipient, University of California
- 2003 Shipley-Skinner Endowment (\$5,900), University of California

GRANTS AND FELLOWSHIPS - AWARDED TO STUDENTS COLLABORATING WITH JLM

- 2019 Audubon of Southern Maryland - Awarded to Meaghan Webster (\$500)
- 2018 Beta Beta Beta National Honor Society Grant - Awarded to Livia Schuller (\$1,000)
- 2018 Cove Point Natural Heritage Trust - Awarded to Livia Schuller (\$2,200)
- 2018 Flores Award - Awarded to Melanie Kimball (\$3,900)
- 2017 Cove Point Natural Heritage Trust - Awarded to Melanie Kimball (\$1,200)
- 2017 ASMBC - Awarded to Elizabeth Johnson (\$1,000)
- 2017 Summer Undergraduate Research Fellowship - Awarded to Elizabeth Johnson (\$1,000)
- 2016 Cove Point Natural Heritage Trust - Awarded to Brad Davidson (\$750)
- 2016 Summer Research Allotment from Scripps College HHMI Grant (\$8,000)
- 2015 Summer Research Allotment from Scripps College HHMI Grant (\$16,000)

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

American Association of University Women
 Society for Integrative and Comparative Biology
 Society for Behavioral Neuroendocrinology
 Sigma Xi

INSTITUTIONAL, DEPARTMENTAL AND PROFESSIONAL SERVICE

Institutional Service

- Science Advisory Committee, St. Mary's College of Maryland (2020-present)
- Academic Policy Committee, St. Mary's College of Maryland (2019-present)
- Environmental Studies Steering Committee, St. Mary's College of Maryland (2018-present)
- Neuroscience Steering Committee, St. Mary's College of Maryland (2018-present)
- Co-advisor: Women in Science Housing, St. Mary's College of Maryland (2018-present)
- Advisor: Women's Rugby, St. Mary's College of Maryland (2016-present)
- Advisor: Sculling Club, St. Mary's College of Maryland (2016-present)
- Advisor: Equestrian Team, St. Mary's College of Maryland (2016-present)

Departmental Service

- Member: Visiting Cell Physiologist Search Committee (2020)
- Biology Representative: Natural Science and Math Colloquium Series (2017-present)
- Member: Visiting Plant Biologist Search Committee (2018)
- Advisor: Beta Beta Beta Biological Honor Society, St. Mary's College of Maryland (2018-present)
- Advisor: Biology Peer Mentor Program, St. Mary's College of Maryland (2017-18)
- Advisor: Animal Career Club, St. Mary's College of Maryland (2016-present)

Professional Service

- Session Chair: Society for Integrative and Comparative Biology 2020
- Participant: Project Kaleidoscope Summer Leadership Institute 2019
- Member: Working Group of Mothers in Science, Co-author of:
 Calisi, R. and **Working Group of Mothers in Science**. 2018. The Childcare-Conference
 Conundrum and how to solve it. Proceedings of the National Academy of Sciences. 115:
 2845-2849.
- Reviewer: Physiological and Biochemical Zoology, Society for Integrative and Comparative
 Biology, PLOS One, Biological Letters, Learning and Motivation
- Member: Avery Grant Master's Thesis Committee - University of Nevada, Reno
- Participant: Workshop Editor's Challenge "Define Stress" Annual Meeting for the Society for
 Integrative and Comparative Biology (2018)