

Julie Wolfe Turner

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Department of Biology
St. John's, NL A1B 3X9

Education

August 2011 - May 2018 Michigan State University; East Lansing, MI
Dual Ph.D. in Integrative Biology (formerly Zoology) and the interdisciplinary program in Ecology, Evolutionary Biology, and Behavior
Major Advisor: Dr. Kay Holekamp
Cumulative GPA: 3.94

August 2007 - May 2011 Grinnell College; Grinnell, IA
Double major in Biology and History (B.A.)
Biology advisor: Kathryn Jacobson; History advisor: Elizabeth Prevost
Cumulative GPA: 3.72

Research and Work Experience

September 2018 - Present Postdoctoral Fellow
Memorial University of Newfoundland

I am examining movement and social patterns using integrated step selection and social network analysis to better understand end of life behaviors and disease dynamics among wolves. I have gained experience capturing and collaring elk and caribou calves. I mentor an honors student studying snail movement ecology in response to human disturbance. I also mentor graduate students, help manage research within the lab, and contribute to governmental progress reports.

March 2017 - August 2018 Freelance science communicator/naturalist
Masai Mara, Kenya

I gave formal and informal talks to tourists and school groups of all nationalities, backgrounds, and age groups on topics ranging from Masai Mara ecology to animal behavior to conservation in the area. Group sizes ranged from about 1-50.

August 2011 - June 2018 PhD candidate
Michigan State University; Department of Integrative Biology

With the Mara Hyena Project (advisor: Kay Holekamp), I tested hyenas' responses to a model "intruder" hyena and examined how hyena association patterns relate to longevity, reproductive success, and other fitness-related traits in adulthood using social network analysis.

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May 2013 -
June 2014 International Research Experience Student Graduate Program Assistant
Michigan State University Mara Hyena Project

I solicited, collected, organized, and evaluated applications of nearly 200 undergraduates interested in doing research on the Hyena Project. I also helped plan the logistics of the students getting to Kenya and their living arrangements once arriving there.

June 2013 -
June 2014 Graduate researcher at Mara Hyena Project field sites
Michigan State University Mara Hyena Project

I helped manage two field camps including training and managing 4-7 research assistants and 7-8 staff, obtaining supplies and research permits, etc. I collected demographic and behavioral data on hyenas as well as physical data from immobilized hyenas. I also conducted prey transects bi-weekly in each study area as general ecosystem measures.

May 2010 -
August 2010 Summer Research Assistant
Oak Ridge National Laboratory, TN

I worked in the Aquatics Laboratory (w/ Mark Bevelhimer and Glenn Cada) I analyzed behavioral responses after exposing fresh water organisms to magnetic fields (40 hrs/week).

May 2009 -
August 2009 I worked with the Campus Sustainability Initiative (w/ Susan Michaud) where I collected data about the recycling culture at ORNL from experiments such as dumpster dives and helped to implement a new recycling program (40 hrs/week).

May 2008 -
August 2008 Summer Research Assistant
Oak Ridge National Laboratory, TN

I worked in a microbiology laboratory (w/ Anthony Palumbo & Meghan Drake) culturing anaerobic bacteria and finding adequate food sources (40 hrs/week).

Publications

Turner, JW, PS Bills, and KE Holekamp. (Under review) Early life relationships matter: Social position during early life predicts fitness among female spotted hyenas. *Journal of Animal Ecology*.

Robitaille, AL, QMR Webber, **JW Turner**, E Vander Wal. (Under review) The problem and promise of scale in multilayer animal social networks. *Current Zoology* Special Column: Embracing the complexity of animal social systems using multilayer network analysis.

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Gering, E, ZM Laubach, P Weber, GS Hussey, KDS Lehmann, TM Montgomery, **JW Turner**, W Perng, MO Pioon, KE Holekamp, and T Getty. (Under review) *Toxoplasma gondii* infections are associated with boldness towards lions in wild hyena hosts. *Scientific Reports*.

Turner, JW, CM Prokopenko, KA Kingdon, D Dupont, S Zabihi-Seissan, and E Vander Wal. (In prep) The walking dead: testing whether end-of-life behaviors can predict cause-specific mortality.

Turner, JW, RM LaFleur, AT Richardson, and KE Holekamp. (2020) Risk-taking in free-living spotted hyenas is associated with anthropogenic disturbance, predicts survivorship, and is consistent across experimental contexts. *Ethology* 126(1): 97-110.

Gering, E, ZM Laubach, P Weber, G Hussey, **JW Turner**, KE Holekamp, and T Getty. (in press) Time makes you older, parasites make you bolder: *Toxoplasma gondii* infections predict hyena boldness toward definitive lion hosts in a human-altered landscape.

Johnson-Ulrich, L, KDS Lehmann, **JW Turner**, and KE Holekamp. (2018) Testing cognition in the *umwelt* of the spotted hyena. The experimental *umwelt*. A practical guide to animal cognition. N. Bueno-Guerra & F. Amici, Eds. Cambridge University Press. Cambridge, UK.

Turner, JW, PS Bills, and KE Holekamp. (2018) Ontogenetic change in determinants of social network position in the spotted hyena. *Behavioral Ecology and Sociobiology* 72:10.

Cada, G, M Bevelhimer, K Riemer, and **J Turner**. (2011) Effects on freshwater organisms of magnetic fields associated with instream hydrokinetic turbines. FY2010 Annual Progress Report to the Wind and Water Power Program, U.S. Department of Energy, Washington, DC.

Presentations

Turner, JW, CM Prokopenko, KA Kingdon, D Dupont, S Zabihi-Seissan, and E Vander Wal. The walking dead: testing whether end-of-life behaviors can be used to predict cause-specific mortality. The Wildlife Society Joint Conference, Reno, NV. Oct. 2019.

Dupont DLJ, CM Prokopenko, KA Kingdon, S Zabihi-Seissan, **JW Turner**, VB Harriman, and E Vander Wal. To Eat or Not to Eat: Testing a Predictive Model of Large Carnivore Behaviour to Estimate Prey Kill Rates in Multi-Prey Systems. The Wildlife Society Joint Conference, Reno, NV. Oct. 2019.

Turner, JW, CM Prokopenko, KA Kingdon, D Dupont, S Zabihi-Seissan, and E Vander Wal. The walking dead: testing whether end-of-life behaviors can be used to predict cause-specific mortality. Canadian Society for Ecology and Evolution Joint Conference, Fredericton, NB. Aug. 2019.

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Turner, JW. Social development and its effects on adult traits in spotted hyenas. Invited Biology Department Seminar, Memorial University of Newfoundland, St. John's, NL. Oct. 2018.

Turner, JW and KE Holekamp. Effects of early social bonds on adult fitness in free-living spotted hyenas (*Crocuta crocuta*). EEBC Colloquium, Michigan State University, East Lansing, MI. Mar. 2016.

Turner, JW and KE Holekamp. Effects of early social bonds on female fitness in free-living spotted hyenas (*Crocuta crocuta*). Animal Behavior Society Conference, University of Alaska Anchorage, Anchorage, AK. Jun. 2015.

Turner, JW. The effects of static magnetic fields on fresh water organisms. Biology Seminar, Biology Department, Grinnell College, Grinnell, IA. Oct. 2010.

Turner, JW. The effects of static magnetic fields on fresh water organisms. Fishheads Seminar, Environmental Sciences Department, Oak Ridge National Laboratory, Oak Ridge, TN. Aug. 2010.

Science Communication

December 2018 - Present Consultant on "Family" in *Animal Social Networks* by Rotating Planet

In this documentary series, I consulted on this project through its development providing insight on hyenas, social networks, current science and what it means, and gave guiding points through the development of the story. I also gave advice on how to plan their trip to Kenya to maximize the few days they had to film It is still in production.

January 2018 Interviewed for *Girl Power - why do female spotted hyenas rule the pack?* by Stewart Wallis in [Discover Wildlife](#)

September 2014 Consultant on *Mama Hyena* (2015) by FL Concepts Paris

For this documentary, I lead the videography team through our hyena research areas, answered their questions, displayed my research, and sat for interviews.

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June 2012 -
August 2018

Outreach events associated with Holekamp Lab and Mara Hyena Project

- MSU Museum Darwin Discovery Day (East Lansing, MI, 2012, 2013, 2016)
- ABS Science Day (Anchorage, AK, 2015)
- Hyena and Mara Ecosystem talks to students and tourists (Kenya)
- Science nights at local schools (East Lansing, MI)

At each of these events, I interacted with families, discussing hyenas, ecology, conservation, and Kenya. We also developed and played games with the kids to give them an idea of what it is like to be a researcher.

Communication and blogging

Turner, JW. (Nov. 2016) [Social networks in spotted hyenas](#). *BEACON blog*.

Turner, JW. (May 2014) [A hyena is a hyena, no matter how small](#). *Notes From Kenya blog*.

Turner, JW. (Feb. 2014) [Routine and adventure](#). *Notes From Kenya blog*.

Turner, JW. (Feb. 2014) [February is hatari time with hyenas](#). *Notes From Kenya blog*.

Turner, JW. (Jul. 2013) [Alien abduction!](#) *Notes From Kenya blog*.

Turner, JW. (Jun. 2013) [Battle for the elephant carcass](#). *Notes From Kenya blog*.

Turner, JW. (Aug. 2012) [An ode to Target and welcoming Junior](#). *Notes From Kenya blog*.

Turner, JW. (Jul. 2012) [Pan ate Target!](#) *Notes From Kenya blog*.

Service

Departmental

September 2018 - Present
Cognitive and Behavioural Ecology Program Journal Club Coordinator
Memorial University of Newfoundland

I organize and facilitate discussions of journal articles by a group of 15-20 people and am leading a review paper being completed by the group.

September 2018 - Present
Mentor Undergraduate Students
Memorial University of Newfoundland, Wildlife Evolutionary Ecology Lab
1 high school student, 2 undergraduates, 1 honors student

August 2014 - May 2015
Service on MSU Zoology Department Curriculum Committee

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August 2012 - August 2018 Mentor Undergraduate and Post-Undergraduate Research Assistants
Michigan State University and Mara Hyena Project
22 undergraduates and 2 post-undergraduates

Non-departmental

- April 2019 Judge, Biology Graduate Student Symposium at MUN

I volunteered to evaluate and give feedback on graduate students' poster presentations.
- October 2018 Judge, Conservation Science Species-at-risk Poster Session

I volunteered to evaluate and give feedback on undergraduate students' final species-at-risk research for their upper level conservation science class BIOL/GEOG-4650.
- April 2016 Judge, University Undergraduate Research and Arts Forum

I volunteered to evaluate and give feedback on students' independent research that they chose to present at the forum
- December 2015 Panelist, MSU Zoology Student Association Graduate School Forum

I met with undergraduate members of the Zoology Student Association to talk about life post-graduation, specifically focusing on graduate school, and to answer their questions.

Teaching Experience

- August 2014 - June 2016 Behavioral Ecology of African Mammals (BEAM) (ZOL 490) Instructor
(Lead instructor July 2015 - June 2016)
Michigan State University Integrative Biology Department

With my other co-instructors, I helped to plan the BEAM course including developing a budget, planning the travel itinerary and on the ground logistics, advertising the course, conducting a risk assessment, and preparing the syllabus and lectures (16 students 2015, 15 students 2016)

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January 2015 -
May 2016

Teaching assistant for Ecology Lab (ZOL/PLB 355L)
Michigan State University Zoology/Plant Biology Departments

I led two labs per week in a course focused on employing the scientific method and improving science writing. I oversaw the students designing, conducting, analyzing, and presenting their own group experiments. Furthermore, I taught basic ecological lab techniques and concepts (~30 students/semester 20 hrs/week).

August 2014 -
December 2014

Teaching Assistant for Organismal Biology Lab (BS 172)
Michigan State University BioSciences Program

I led two labs per week and attended recitation. I guided students in designing and conducting their own research, grade papers and poster presentations that the students make, as well as their progress at learning lab techniques (37 students, 20 hrs/week).

January 2013 -
May 2013

Teaching Assistant for Cell and Molecular Biology Lab (BS 171)
Michigan State University BioSciences Program

I led two labs per week and a recitation. I graded papers and poster presentations that the students make, as well as their progress at learning lab techniques (33 students, 20 hrs/week).

August 2012 -
December 2012

Teaching Assistant for Marine Biology (ZOL 353)
Michigan State University Zoology Department

I attended lectures biweekly and led two discussion sections. Some weeks I was the discussion leader, and other weeks, I facilitated student led discussions. Furthermore, I graded written essays, going through a drafting process, to help teach science writing (31 students, 20 hrs/week).

January 2011 -
May 2011

Teaching Assistant for Animal Behavior
Grinnell College Biology Department

I attended all classes and lab sessions, helped with in-class activities, and held weekly review sessions to go over crucial material and help student with any questions. For each review session, I developed a review lecture and practice questions (10 hrs/week).

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August 2010 - December 2010 Teaching Assistant for Molecules, Cells, and Organisms
Grinnell College Biology Department

I attended all classes, helped with in-class activities, and held weekly review sessions to go over crucial material and help students with any questions. For each review session, I developed a practice-test handout (10 hrs/week).

August 2009 - January 2011 Tutor for Introduction to Biological Inquiry
Grinnell College Biology Department

I would meet one-on-one with students who were struggling or wanted help reinforcing key concepts. Depending on the student, I would either answer questions or develop worksheets to help the student identify and understand the key ideas (10 hrs/week).

Awards and Honors

- College of Natural Sciences Dissertation Completion Fellowship (\$7500): 2017
- Michigan State University Excellence-in-teaching Citation: 2016-2017
- College of Natural Sciences Dissertation Continuation Fellowship (\$6000): 2016
- American Society of Mammalogists Grant-in-aid (\$1000): 2013
- Animal Behavior Society Student Research Grant (\$1250): 2013
- Ecology, Evolutionary Biology, and Behavior summer fellowship (\$1800): 2013, 2015-2017
- Phi Kappa Phi Honor Society: 2013
- BEACON Science and Technology Center Top Up Fellowship (\$3000/year): 2011-2016
- MSU College of Natural Science Recruitment Fellowship (\$25,000): 2011-2012
- Graduate with honors in biology at Grinnell College: 2011
- Phi Beta Kappa Honor Society: 2011
- Grinnell Trustee Scholarship: 2007–2011
- Charles E. Payne Scholarship: 2010-2011
- Mortarboard Honor Society: 2010-present
- U.S. Department of Energy Global Change Education Program- Summer Undergraduate Research Experience (GCEP-SURE) Finalist: 2010
- Grinnell College Deans List: 2007, 2009
- William G. Pollard Scholarship: 2007–2008, 2008–2009

Other skills

- Database management (Microsoft Access, SQLite)
- Coding/statistics (primarily R, but also SQL and Python)
- Social network analysis
- Integrated step selection analysis
- GIS experience
- Conversational Spanish
- Skilled at off-road, 4x4 driving
- Wilderness first aid and CPR certified

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References

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Dr. Kay Holekamp
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Michigan State University
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Dr. Matthew Rowe
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University of Oklahoma
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Patrick Bills
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Michigan State University
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