

ANNA ALICE MOSSER
Curriculum Vitae
Teaching Assistant Professor

Department of Biology Teaching and Learning
University of Minnesota
3-154 MCB, 420 Washington Ave. SE
Minneapolis, MN 55455
Email: amosser@umn.edu, Phone: 612-625-0104

EDUCATION

Ph.D., University of Minnesota, St. Paul, Minnesota 2008
Department of Ecology, Evolution and Behavior
Advisor: Dr. Craig Packer

B.A. with honors, The University of Chicago, Chicago, Illinois 1999
Biology major, with specialization in Ecology and Evolution
Honors advisors: Dr. Matthew Leibold and Dr. Jeanne Altmann

PROFESSIONAL APPOINTMENTS

University of Minnesota, Twin Cities 2012 - present
Teaching Assistant Professor
Department of Biology Teaching and Learning, College of Biological Sciences

University of Guelph, Ontario, Canada 2010 - 2012
Postdoctoral Fellow & Sessional Lecturer (2011)
Department of Integrative Biology (supervisor: Dr. John Fryxell)

The Jane Goodall Institute, Tanzania 2008 - 2009
Director of Research
Gombe Stream Research Centre, Gombe National Park

Princeton University, Princeton, New Jersey, USA 1999 - 2000
Research Assistant
Amboseli Baboon Research Project (supervisor: Dr. Jeanne Altmann)

TEACHING AND CURRICULUM DEVELOPMENT

Courses and Seminars Taught

Foundations of Biology, Part 1 (BIOL2002, 6 credits, 90 classroom contact hours per section)
Fall 2018 (one section, co-taught with Anita Schuchardt and Petra Kranzfelder, 156 students)
Spring 2018 (one section, co-taught with David Matthes, 165 students)
Fall 2017 (one section, co-taught with Anita Schuchardt, 125 students)
Spring 2017 (one section, co-taught with Brian Gibbens, 166 students)
Spring 2016 (two sections, co-taught with Brian Gibbens, 313 students total)
Spring 2014 (one section, co-taught with Robin Wright, 153 students)
Fall 2013 (one section, co-taught with David Matthes, 144 students)
Spring 2013 (two sections, co-taught with Brian Gibben and David Matthes, 229 students total)

Foundations of Biology, Part 2 (BIOL2003, 3 credit course, 32 classroom contact hours per section)
Spring 2018 (one section, co-taught with Robert Brooker), 123 students)
Spring 2017 (one section, co-taught with Brian Gibbens, 43 students)

Fall 2016 (two sections co-taught with Tamar Resnick, 161 students total)
Fall 2015 (one section co-taught with Brian Gibbens, 95 students)
Spring 2015 (two sections, co-taught with Brian Gibbens and Rob Brooker, 124 students total)
Fall 2014 (one section, co-taught with Brian Gibbens, 109 students)
Spring 2014 (one section, co-taught with Nik Somia, 123 students)
Fall 2013 (one section, co-taught with Brian Gibbens, 141 students)

Nature of Science and Research (BIOL3001, 1 credit course for transfer students, 15 contact hours)
Fall 2018 (70 students)
Fall 2017 (76 students)
Fall 2016 (76 students)
Fall 2015 (86 students)
Fall 2014 (co-taught with Jane Phillips, 64 students)

Freshman Seminar (BIOL1905, 1 credit, 15 contact hours)
Fall 2015 (20 students)
Fall 2013 (20 students)

Nature of Life – Itasca Session
July 2015 (two sessions, ~180 students)
July 2014 (three sessions, ~135 students)

(University of Guelph) Introduction to Ecology, Winter 2011, 203 students

(University of Minnesota and Galtier Elementary School, St. Paul) Graduate Fellow, National Science Foundation GK12 Program, Fall 2005 – Spring 2006

Curriculum Development

New active learning in-class exercises, exam questions, long-term projects, and assessment rubrics for Foundations of Biology, Parts 1 and 2, 2013 – present

Significant and ongoing revision and new curriculum for Nature of Science and Research course (BIOL3001), 2015 to present

Introduced training on team work decision making and conflict resolution in collaboration with Dr. Gordon Mosser in Foundations of Biology, Part 1

New course on critical thinking created in Fall 2013, including in-class activities and a long-term project (Freshman Seminar, BIOL1905, entitled How to Think About Weird Things)

New modules for Nature of Life program at Itasca, 2014-15 (Big Brother Itasca, on remote wildlife monitoring)

Collaborative Efforts and Activities

HHMI Faculty Fellow (and Senior Faculty Fellow) for Inclusive Excellence – Attended workshops and conducted research study on developing science identity (Fall 2016-present).

Writing to Learn research project for Foundations of Biology 1 (Spring 2017 to present) – Key Personnel for project led by Dr. Leslie Schiff.

Transfer Student Peer Guide project (Fall 2015 to present) – worked with Meaghan Stein and Brittany Dilling to develop peer mentoring program as a part of the revised Nature of Science and Research course for incoming transfer students. Part of a HHMI Pathways to Advance Success grant awarded to Dr. Wright.

Digital Biology Initiative – In collaboration with other instructors for introductory biology courses, developed digital based materials to help students develop skills in teamwork and structured brainstorming.

Faculty Development Sessions Led

Jan. 2016 - Active Learning in the Life Sciences Classroom, workshop for the Partnership for Undergraduate Life Sciences Education (PULSE), presented in two workshop sessions for participants

Jul. 2013 - Best practices presentation, POGIL South Central Regional Workshop, St. Louis, Missouri. “Foundations of Biology: Think Like a Scientist!” with Brian Gibbens

Jul. 2013 - Teaching activity presentation, POGIL South Central Regional Workshop, St. Louis, Missouri. “Where Does Science End?”

Faculty Development Sessions Attended

Fall 2016 to present – HHMI Inclusive Excellence program

Mar 2018 – Transfer Student Summit

Dec. 2017 - Office of Undergraduate Education workshop, “Students who are first generation / low income: Delving into complex identities”

April 2017 - Academy of Distinguished Teachers Biennial Conference

Dec. 2016 - Boynton Health Conference on ACEs and Mental Health for College Students

Mar. 2016 – Critical-thinking Assessment Test (CAT) training workshop (Hybrid CAT Train-the-Trainer & CAT App)

Aug. 2015 – 7th Annual Resources for Ecology Education Workshop, annual Ecological Society Meeting

May 2015 – Completed Early Career Teaching Program, Center for Educational Innovation (9 month program)

May 2015 – Completed Equity and Diversity Certificate from the Office of Equity and Diversity (30 hours training)

RESEARCH

Professional – University of Minnesota

Building science identity in undergraduate transfer students current
In collaboration with Meaghan Stein and Jesse Lewis

Writing to Learn research project (led by Leslie Schiff) current

Group composition for team-based learning in the undergraduate science classroom 2016-17
In collaboration with David Matthes, Brian Gibbens and JD Walker

Postdoctoral

Population viability of Ontario woodland caribou in relation to landscape change 2010 – 2012
University of Guelph, Ontario, Canada
Primary collaborators: Fryxell J and Nudds T (University of Guelph), Thompson I (Canadian Forest Service), Baker J, Brown G, and Rodgers A (Ontario Ministry of Natural Resources), Patterson B (Trent University)

Terrain-based modeling of vegetation patterns in Gombe National Park 2008 – 2009
Gombe Stream Research Centre, Tanzania
Collaborators: Murray C (Lincoln Park Zoo, Chicago), Wilson M and Bolstad P (University of Minnesota)

Molecular epidemiology and natural history of the simian immunodeficiency virus 2008 – 2009
Gombe Stream Research Centre, Tanzania
Primary collaborators: Hahn B, Keele B and Rudicell R (University of Alabama), Travis D and Lonsdorf E (Lincoln Park Zoo, Chicago), Pusey A and Wilson M (University of Minnesota), Jones J (Stanford University), Terio K (University of Illinois), and Mlengeya T (Tanzania National Parks)

Dissertation

Group territoriality of the African lion 2001 – 2008
University of Minnesota, Department of Ecology, Evolution and Behavior

Assistantships

Biocomplexity of the Greater Serengeti 2003 – 2005
University of Minnesota
Primary collaborators: Packer C (University of Minnesota), Fryxell J (University of Guelph), Hilborn R (University of Washington), Sinclair ARE (University of British Columbia), Borner M and Thirgood S (Frankfurt Zoological Society)

Long-term monitoring of savannah baboons in Amboseli National Park, Kenya 1997 – 2000
The University of Chicago (1997 – 98) and Princeton University (1999 – 2000)
Advisor: Jeanne Altmann

Research Publications

Kittle A, Anderson M, Avgar T, Baker J, Brown G, Hagens J, Iwachewski E, Moffatt S, **Mosser A**, Patterson BR, Reid D, Rodgers A, Shuter J, Street GM, Thompson I, Vennen LV, and Fryxell JM. 2017. Landscape-level wolf space use is correlated with prey abundance, ease of mobility and the distribution of prey habitat. *Ecosphere*. 8(4): e01783 DOI:10.1002/ecs2.1783

McGreer MT, Mallon EE, Vennen LMV, Wiebe PA, Baker JA, Brown GS, Avgar T, Hagens J, Kittle AM, **Mosser A**, Street GM, Reid DEB, Rodgers AR, Shuter J, Thompson ID, Turetsky MJ, Newmaster SG, Patterson BR, and Fryxell, JM. 2015. Selection for forage and avoidance of risk by woodland caribou (*Rangifer tarandus caribou*) at coarse and local scales. *Ecosphere* 6:288. doi: 10.1890/ES15-00174.1

Street GM, Vennen LMV, Avgar T, **Mosser A**, Anderson ML, Rodgers AR, and Fryxell JM. 2015. Habitat selection following recent disturbance: model transferability with implications for management and conservation of moose (*Alces alces*). *Canadian Journal of Zoology* 93: 813–821.

Kittle AM, Anderson M, Avgar T, Baker JA, Brown GS, Hagens J, Iwachewski E, Moffatt S, **Mosser A**, Patterson BR, Reid DEB., Rodgers AR, Shuter J, Street GM, Thompson ID, Vander Vennen LM, and Fryxell JM. 2015. Wolves adapt territory size, not pack size to local habitat quality. *Journal of Animal Ecology* 84: 1177–1186. doi: 10.1111/1365-2656.12366

Mosser A, Kosmala M, and Packer C. 2015. Landscape heterogeneity and behavioral traits drive the evolution of lion group territoriality. *Behavioral Ecology* (2015), 26(4): 1051–1059. doi:10.1093/beheco/arv046

Avgar T, Baker JA, Brown GS, Hagens JS, Kittle AM, Mallon EE, McGreer MT, **Mosser A**, Newmaster SG, Patterson BR, Reid DEB, Rodgers AR, Shuter J, Street GM, Thompson I, Turetsky MJ, Wiebe PA, and

Fryxell JM. (2015) Space-use behaviour of woodland caribou based on a cognitive movement model. *Journal of Animal Ecology*, 84: 1059–1070.

Mosser A, Avgar T, Spencer W, Brown G, and Fryxell J. 2014. Towards an energetic landscape: broad-scale accelerometry in Ontario woodland caribou. *Journal of Animal Ecology* 83(4): 916–922. DOI: 10.1111/1365-2656.12187.

Avgar T, **Mosser A**, Brown G, and Fryxell J. 2013. Environmental and individual drivers of animal movement patterns across a wide geographical gradient. *Journal of Animal Ecology*. 82(1): 96–106. DOI: 10.1111/j.1365-2656.2012.02035.x

Eby S, **Mosser A**, Swanson A, Packer C, Ritchie M. 2013. The impact of burning on lion (*Panthera leo*) habitat choice in an African savanna. *Current Zoology* 59(3): 335–339

Sinclair ARE., Metzger K, Fryxell J, Packer C, Byrom A, Craft M, Hampson K, Lembo T, Durant S, Forrester G, Bukombe J, Mchetto J, Dempewolf J, Hilborn R, Cleaveland S, Nkwabi A, **Mosser A**, and Mduma S. 2013. Asynchronous food web pathways could buffer the response of Serengeti predators to El Niño Southern Oscillation. 94(5): 1123–1130 *Ecology*.

Rudicell RS, Jones JH, Wroblewski EE, Learn GH, Li Y, Robertson JD, Greengrass E, Grossmann F, Kamenya S, Pintea L, Mjunga DC, Lonsdorf EV, **Mosser A**, Lehman C, Collins DA, Keele BF, Goodall J, Hahn BH, Pusey AE and Wilson ML. 2010. Impact of Simian Immunodeficiency Virus Infection on Chimpanzee Population Dynamics. *PLOS Pathogens* 6(9): e1001116. doi:10.1371
Macdonald DW, **Mosser A**, Gittleman JL. 2010. Felid Society. In: *Biology and Conservation of Wild Felids*, (Macdonald DW, Loveridge AJ, eds). Oxford: Oxford University Press.

Funston, P, Frank L, Stephens T, Davidson Z, Loveridge A, Macdonald DM, Durant S, Packer C, **Mosser A** and Ferreira S. 2010. Substrate and species constraints on the use of track incidences to estimate African large carnivore abundance. *Journal of Zoology* 281: 56–65.

Kissui BM, **Mosser A**, Packer C. 2009. Persistence and local extinction of lion prides in the Ngorongoro Crater, Tanzania. *Population Ecology* 52(1): 103-111.

Keele BF, Jones JH, Terio KA, Estes JD, Rudicell RS, Wilson ML, Li Y, Learn GH, Beasley TM, Schumacher-Stankey J, Wroblewski E, **Mosser A**, Raphael J, Kamenya S, Lonsdorf EV, Travis DA, Mlengya T, Kinsel MJ, Else JG, Silvestri G, Goodall J, Sharp PM, Shaw GM, Pusey AE and Hahn BH. 2009. Increased mortality and AIDS-like immunopathology in wild chimpanzees infected with SIVcpz. *Nature* 460: 515-519.

Mosser A, Fryxell J, Eberly L, Packer C. 2009. Serengeti real estate: density versus fitness-based indicators of lion habitat quality. *Ecology Letters* 12: 1050-1060.

Mosser A, Packer C. 2009. Group territoriality and the benefits of sociality in the African lion. *Animal Behaviour* 78(2): 359-370.

VanderWaal KL, **Mosser A**, Packer C. 2009. Optimal group size, dispersal decisions and postdispersal relationships in female African lions. *Animal Behaviour* 77: 949–954.

Fryxell JM, **Mosser A**, Sinclair ARE, Packer C. 2007. Group formation stabilizes predator–prey dynamics. *Nature* 449: 1041-1044.

LeDee O, **Mosser A**, Gamble T, Childs G, Oberhauser K. 2007. A Science Club Takes Action. *Science and Children* 44(9): 35-37.

Packer C, Hilborn R, **Mosser A**, Kissui B, Borner M, Hopcraft G, et al. 2005. Ecological change, group territoriality, and population dynamics in Serengeti lions. *Science* 307: 390-393.

Thirgood S, **Mosser A**, Tham S, Hopcraft G, Mwangomo E, Mlengeya T, et al. 2004. Can parks protect migratory ungulates? The case of the Serengeti wildebeest. *Animal Conservation* 7: 113–120.

Research Presentations (since 2007)

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| Oral presentation, 102 nd annual meeting of the Ecological Society of America, Portland, OR. "Group composition for team-based learning: Random versus designed groups as it affects student performance and course perceptions" | August 2017 |
| Poster presentation, Society for the Advancement of Biology Education Research (SABER) National Meeting, Minneapolis, MN, "Group composition for team-based learning: Random versus designed groups as it affects individual and team performance and course perceptions" | July 2016 |
| Oral presentation, 98 th annual meeting of the Ecological Society of America, Minneapolis, Minnesota. "The view from a caribou: a collar + GPS + accelerometer + on-board video = extensive data on an elusive species". Mosser A, Avgar T, Rodgers A, Fryxell J, and Thompson I. | August 2013 |
| Oral presentation, 97 th annual meeting of the Ecological Society of America, Portland, Oregon "Towards and energetic landscape: broad-scale accelerometry in woodland caribou". Mosser A, Avgar T, Brown G, and Fryxell C. | August 2012 |
| Invited seminar: Department of Conservation Biology, Doñana Biological Station, Seville, Spain | July 2011 |
| Oral presentation: 6 th annual meeting of the Canadian Society for Ecology and Evolution, Banff, Alberta, "Energetics and landscape patterns in Ontario woodland caribou". Mosser A, Avgar T, Brown G, and Fryxell C. | May 2011 |
| Invited seminar: Department of Integrative Biology, University of Guelph, Guelph, Ontario, Canada | April 2011 |
| Oral presentation, 94 th annual meeting of the Ecological Society of America, Albuquerque, New Mexico, "The evolution of group territoriality: The emergence of sociality in a heterogeneous landscape", Mosser A , Kosmala M, and Packer C | August 2009 |
| Oral presentation: Allee session for best student paper, 45 th annual meeting of the Animal Behavior Society, Snowbird, Utah, "Linking landscapes and behavior: Group territoriality of the African lion", Mosser A | August 2008 |
| Oral presentation: Felid Biology and Conservation Conference, Oxford, England, "Group territoriality of the African lion", Mosser A and Packer C | Sept. 2007 |

External Research Funding

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| <i>National Institutes of Health</i> , "Molecular Epidemiology and Natural History of SIVcpz" PI: Beatrice Hahn, CO-PI for sub-award at Gombe Stream Research Centre | 2009 |
| <i>National Science Foundation</i> , Doctoral Dissertation Improvement Grant, "Group territoriality of the African Lion", CO-PI with graduate advisor | 2006 |

SERVICE AND OUTREACH

University Faculty Senate (CBS representative)	2018 - present
Faculty advisor for Biology Without Borders student club	2015 - present
Academic Integrity Matters (AIM) program, Office of Community Standards	2015 - present
CBS Dean's Reception, Foundations of Biology Experience session presenter	2015, '16, '18
North Star banquet for transfer students	Nov. 2017
Faculty Focus Group: Supporting Non-Native English Speakers	April 2017
Faculty chaperone for students to National Conference on Undergraduate Research	April 2017
Disability Issue Committee, University of Minnesota Senate Committee	2014 - 2017
Faculty advisor for National Society of Collegiate Scholars student club	2017 - 2018
Student workshop for U of M American Indian Visit Day	Nov. 2016
Departmental Committee, Office Space Use	2015
Faculty mentor for Ecological Society of America undergraduate SEEDS program	2013, 2015
Speaker at Environmental Sciences Academic Open House, University of Guelph	2011, 2012

Ad hoc reviewer: *Animal Behaviour*, *Behavioral Ecology*, *Biological Conservation*, *Ecography*, *Ecological Applications*, *Ecology*, *Ecology Letters*, *Naturwissenschaften*, *PlosONE*, *Proceedings of the Royal Society (Series B)*, *Wildlife Biology*

ADVISING AND MENTORING

Undergraduate honors thesis faculty advisor, Gray, S	2017 – 2018
Undergraduate honors thesis faculty reader, Kumar R	2016 – 2017
Undergraduate honors thesis faculty reader, Purani H	2016 – 2017
Undergraduate honors thesis faculty reader, Sukharan J	2015 – 2016
Undergraduate honors thesis faculty reader, Wheelock C	2015 – 2016
Undergraduate thesis co-advisor, Poole S, University of Guelph	2011 – 2012
Volunteer Coordinator, Serengeti Lion Project, University of Minnesota	2001 – 2007
Undergraduate thesis co-advisor, VanderWaal K, University of Minnesota	2005 – 2007
Mentor to high school student, Chun H, St. Paul Academy, Minnesota	2003 – 2005
Mentor to high school student, Morse N, Orono High School, Minnesota	2003 – 2004

HONORS AND AWARDS

CBS Student Board's Golden Pipette Winner for Most Passionate Professor, 2018
CBS Student Board's Golden Pipette Nomination for Most Passionate Professor, 2017
CBS Student Board's Golden Pipette Runner-up Award for Most Engaging Professor, 2016
CBS Student Board's Golden Pipette Award Nomination for Most Approachable Professor, 2015
Finalist, Allee Session for Best Student Paper, Animal Behavior Society Meeting, 2008
University of Minnesota, Doctoral Dissertation Fellowship, 2006 – 2007
University of Minnesota, Doctoral Dissertation International Research Grant, 2004
University of Minnesota, Dayton-Wilkie Summer Research Grant, 2003
University of Minnesota, Florence Rothman Award (research funding), 2002
University of Minnesota, Graduate School Fellowship, 2001 – 2002

PROFESSIONAL SOCIETY MEMBERSHIPS

American Association for the Advancement of Science
Ecological Society of America
Society for the Advancement of Biology Education Research (SABER)
National Association of Biology Teachers