

Curriculum Vitae

Teresa L. McElhinny

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Education

PhD 2009, Departments of Zoology and Ecology, Evolutionary Biology & Behavior, Michigan State University, East Lansing, MI. Thesis title: Morphological variation in a durophagous carnivore, the spotted hyena (*Crocuta crocuta*).

MS 1996, Department of Zoology, concentration in animal behavior, Michigan State University, East Lansing, MI. Thesis title: Reproductive Biology and Biological Rhythms in *Arvicanthis niloticus*.

BS 1993, Department of Zoology, concentration in animal behavior, Michigan State University, East Lansing, MI.

Experience

Subject Matter Expert and Instructional Designer, McGraw-Hill Higher Education

Developing materials for Biology and Environmental Science texts as part of the Connect Plus online interactive learning system. October 2009- present.

Visiting Assistant Professor

Evolution (ZOL 445) Michigan State University. Fall 2009.

Instructor

Fundamental Genetics (ZOL 341), Michigan State University. Summer 2007.

The Behavioral Ecology of African Mammals (ZOL 490), MSU Study Abroad in Kenya. Summer 2004.

The Biology of Mammals (ZOL 365), MSU's Kellogg Biological Station. Summer 1997.

Co-instructor

The Behavioral Ecology of African Mammals (ZOL 490), MSU Study Abroad in Kenya. Summer 2001, 2002.

Laboratory Instructor/Teaching Assistant

Fundamental Genetics (ZOL 341 ONLINE) MSU. Summer 2009.

Comparative Anatomy (ZOL 328), MSU. Spring 1995, 1996, 2000, 2009.

Histology (ZOL 408), MSU. Fall 2005, 2006, 2007, 2008.

Fundamental Genetics (ZOL 341), MSU. Summer 2000, 2008; Spring 2006.

Organisms and Populations (BS110), MSU. Fall 2002, 2003; Spring 2005; Summer 2005.

The Biology of Birds (ZOL 360), MSU. Fall 2000, 2001, 2004.

The Biology of Mammals (ZOL 365), MSU. Fall 1994, 1995, 1999; Spring 2001, 2002, 2003, 2004.

The Biology of Birds and Mammals (ZOL 365), MSU. Spring 1994.

Grants and Awards

2008 Travel Fellowship, The Graduate School, Michigan State University

2008 Dissertation Completion Fellowship, the Graduate School, Michigan State University

2006-2007 FAST (Future Academic Scholars in Teaching) Fellowship, the Graduate School and the Center for Integration of Research, Teaching, and Learning, Michigan State University. Project title: SOLVE: a rubric for problem-solving in genetics

2007 Travel Grant for travel to the 18th annual International Conference on College Teaching and Learning, College of Natural Science, Michigan State University

2005 Excellence-in-Teaching Award, College of Natural Science, Michigan State University

2002 Grant in Aid of Research, American Society of Mammalogists

2002 Dean's Office Fellowship, College of Natural Science, Michigan State University

1994 Award for best graduate student poster, Second Annual Zoology Research Day, Michigan State University

Service

College of Natural Science focus group meeting on professional development opportunities for advanced graduate students, Panel member, April 27, 2004.

Ecology, Evolutionary Biology and Behavior Graduate Student Organization, President, 2001-2002.

Curriculum Committee: Michigan State University, Department of Zoology, Graduate Student Representative, 2000-2001.

Campus Teaching Assistant Orientation, Facilitator, 2000, 2001.

International Teaching Assistant Orientation, Facilitator, 2001.

MSU Museum exhibit "Animal Weapons: Nature's Arms Race", Committee member, 1999-2000.

An Invitation to Sample Success: Sixth Grade Girls in Math and Science Conference, Hands-on mentor, Capital Area Math and Science Center, Annually, 1994-1998, 2000.

Seminar Committee: Michigan State University, Department of Zoology, Graduate Student Representative, 1994-1995.

Teaching Enrichment

18th annual International Conference on College Teaching and Learning, Ponte Vedra Beach, Florida, April 2-5, 2007.

MSUTA Seminar: "Talking about your teaching when it really matters- during the interview", MSU, 19 October, 2006.

Lilly Faculty Seminar Program: "Teaching Critical Thinking: Are You Doing It and How Can You and Your Students Know It?", MSU, 29 October, 2004.

Lilly Faculty Seminar Program: "Introduction to the Scholarship of Teaching and Learning", MSU, 23 September, 2004.

Course, Curriculum and Laboratory Improvement (CCLI) Program Conference: "Invention and Impact: Building Excellence in Undergraduate Science, Technology, Engineering and Mathematics (STEM) Education" Crystal City, Virginia, 16-18 April 2004.

Lilly Faculty Seminar Program: "Integrating Service Learning and Civic Engagement into Your Courses, MSU, 22 March, 2004.

Lilly Faculty Seminar Program: "Managing the Integrity of the Classroom Testing Process", MSU, 18 November, 2003.

Lilly Faculty Seminar Program: "Elements of a Great Study Abroad Experience", MSU, 23 October, 2003.

Lilly Faculty Seminar Program: "Using the ANGEL Course Management System at MSU", MSU, 13 November, 2003.

Lilly Faculty Seminar Program: "Instructional Models and User-Centered Technology Design", MSU, 6 November, 2003.

College of Natural Science Teaching Certification Program Special Seminar: "Using Assessment to Improve Instruction", MSU, 7 October, 2003.

Lilly Faculty Seminar Program: "Grading Group Work", MSU, 15 September 2003.

Lilly Faculty Seminar Program: "Introduction to Problem-Based Learning", MSU, 20 February, 2002.

College of Natural Science Course: "Teaching College Science", MSU, Spring Semester, 2001.

Presentations and Guest Lectures

"Characteristics of the Class Mammalia", Zoology 365 (Biology of Mammals), Michigan State University, January 2010.

"A Reassessment of Sexual Dimorphism in the Spotted Hyena, *Crocuta crocuta*", presentation to Michigan State University's interdepartmental Brain and Behavior Group, December, 2007.

"Active Learning in the Genetics Classroom", presentation to off-campus Math/Science instructors for summer 2007, Michigan State University, April 2007.

“Avian Reproductive Physiology and Egg Biology”, Zoology 360 (Biology of Birds), Michigan State University, October 2004.

“Natural History of Carnivores”, Zoology 365 (Biology of Mammals), Michigan State University, April, 2002, 2003, and 2004.

“Genetics and Behavior”, Zoology 341 (Fundamental Genetics), Michigan State University, June, 2000.

“Communication and Dominance”, Zoology 365 (Biology of Mammals), Michigan State University, October 1999.

“Circadian Rhythms and Sleep”, Psychology 209 (Brain and Behavior), Michigan State University, Spring and Fall, 1998.

“Diurnality and Nocturnality in *Arvicanthis niloticus*”, presentation to Michigan State University’s interdepartmental Brain and Behavior Group, March, 1997.

“How to make a scientific poster”, McNair/SROP Scholars Program, Michigan State University, July, 1996.

“Patterns of body temperature, activity, and reproductive behavior in a tropical murid rodent, *Arvicanthis niloticus*”, presentation to Michigan State University’s interdepartmental Brain and Behavior Group, April, 1996.

Research Experience

August 1999- August 2009. Graduate student research: Conducted in the laboratory of Dr. Barbara Lundrigan, the morphology of the skull in the spotted hyena (*Crocuta crocuta*), focusing on sexual dimorphism and geographic variation, using geometric morphometric techniques.

July 1997-July 1999. Research technician: Conducted in the laboratory of Dr. Juli Wade, this work involved efforts to elucidate the roles of steroid hormones and neurotrophins in the control of the differentiation of sexually dimorphic song nuclei in the zebra finch brain.

June 1996-July 1999. Research technician: Conducted in the laboratory of Dr. Laura Smale, this work involved biological rhythms in the unstriped Nile grass rat (*Arvicanthis niloticus*), a diurnal murid rodent. This research centered on rhythms of behavior and peptides linked with time-keeping mechanisms.

September 1993-June 1996. Graduate student research: Conducted in the laboratories of Drs. Kay Holekamp and Laura Smale, this group of projects involved researching the natural history of *Arvicanthis niloticus*, and developing and carrying out descriptive experiments centering on the reproductive biology, and biological rhythms associated with reproduction in this species.

June-December 1992. Undergraduate student research: Conducted in the laboratories of Drs. Martin Balaban and James Atkinson, this work provided an introduction to behavioral observation.

Publications

- Van Horn, R.C., McElhinny, T.L., and Holekamp, K.E. 2003. Age-estimation and dispersal in the spotted hyena (*Crocuta crocuta*). *Journal of Mammalogy*. 84:1019-1030.
- Nunes, S., McElhinny, T.L., Mahoney, M.M., and Smale, L. 2002. Effects of photoperiod on the reproductive condition of Nile grass rats (*Arvicanthis niloticus*) from an equatorial population. *African Journal of Ecology*. 40:295-302.
- Smale, L., McElhinny, T., Nixon, J., Gubik, B., and Rose, S. 2001. Patterns of wheel running are related to Fos expression in neuropeptide Y-containing neurons in the intergeniculate leaflet of *Arvicanthis niloticus*. *Journal of Biological Rhythms*. 16: 163-173.
- McElhinny, T.L., Sisk, C.L., Holekamp, K.E., and Smale, L. 1999. A morning surge in plasma LH coincides with elevated Fos expression in GnRH-IR neurons in the diurnal rodent *Arvicanthis niloticus*. *Biology of Reproduction*. 61: 1115-1122.
- Wade, J., Swender, D.A., and McElhinny, T.L. 1999. Sexual differentiation of the zebra finch song system parallels genetic, not gonadal, sex. *Hormones and Behavior*. 36: 141-152.
- Nunez, A.A., Bult, A., McElhinny, T. L. and Smale, L. 1999. Daily rhythms of Fos expression in hypothalamic targets of the suprachiasmatic nuclei in diurnal and nocturnal rodents. *Journal of Biological Rhythms*. 14, 300-306.
- Blanchong, J.A., McElhinny, T.L., Mahoney, M.M., and Smale, L. 1999. Nocturnal and diurnal rhythms in the unstriped Nile rat, *Arvicanthis niloticus*. *Journal of Biological Rhythms*. 14: 364-377.
- McElhinny, T.L., Smale, L., and Holekamp, K.E. 1997. Patterns of body temperature, activity, and reproductive behavior in a tropical murid rodent, *Arvicanthis niloticus*. *Physiology and Behavior*. 62: 91-96.

Technical Experience

PCR, sequence analysis, geometric morphometrics, histology, immunocytochemistry, autoradiography, thin layer chromatography, animal husbandry and maintenance of laboratory colonies (snails, grass rats, zebra finches, anole lizards), small animal perfusion and surgery, statistical analysis, graphical illustration of data, management of undergraduate employees including hiring, training, scheduling, and project coordination.