

CURRICULUM VITAE

Elizabeth A. Miller

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Education

- 2010 – present University of Notre Dame, Department of Biological Sciences
Ph.D. (anticipated May 2015), Biological Sciences
- 2003 – 2007 Oberlin College, Oberlin, OH
B.A., Biology and Classical Civilizations

Research Experience

- Oct. 2007 –
Aug. 2010 **Research Technician**, Northwestern University
Laboratory of Richard I. Morimoto
- Development of a light-switchable gene expression system for *C. elegans* to examine the effect of chaperone induction on polyQ aggregation.
 - Comparison of transcriptional stress responses in laboratory cultured *C. elegans* to newly isolated free-living nematodes, before and after inbreeding.
 - Immunostaining of muscle filaments in *C. elegans* to examine the age-dependent accumulation of misfolded proteins.
- 2005 – 2007 **Research Assistant**, Oberlin College
Laboratory of Mary C. Garvin
- Examining the role of hormones on the spring relapse of *Haemoproteus* spp. through testosterone-induced recrudescence in captive gray catbirds.
 - Laboratory assessment of West Nile virus spring relapse by inducing immunosuppression in experimentally infected gray catbirds.
 - Effect of host age, sex, and season on the prevalence and mean intensity of chewing lice on gray catbirds in northeastern Ohio.
- Spring 2005 **Research Student**, Oberlin College
Laboratory of Lenny Z. Gannes
- Identification of blood parasites in middle-eastern migratory birds.
- January 2005 **Laboratory Intern**, USDA, Beltsville, MD
Laboratory of Benjamin M. Rosenthal
- Genotyping of the coccidian parasite *Sarcocystis canis* for comparison with *Sarcocystis neurona*.

Publications

Owen, J. C., F. R. Moore, A. J. Williams, L. Stark, **E. A. Miller**, V. J. Morley, A. R. Krohn, and M. C. Garvin (2011) Test of recrudescence hypothesis for overwintering of eastern equine encephalomyelitis virus in gray catbirds. *Journal of Medical Entomology* 48(4): 896-903.

Owen, J. C., F. R. Moore, A. J. Williams, **E. A. Miller**, L. C. Wilson, V. J. Morley, R. N. Abbey-Lee, B. A. Veeneman, B. DeRussey, M. McWhorter, M. C. Garvin (2010) Test of recrudescence hypothesis for overwintering of West Nile virus in gray catbirds. *Journal of Medical Entomology* 47(3): 451-457.

Ben-Zvi, A., **E. A. Miller**, and R. I. Morimoto (2009) Collapse of proteostasis represents an early molecular event in *Caenorhabditis elegans* aging. *Proceedings of the National Academy of Sciences* 106(35): 14914-14919.
(Reviewed by Faculty of 1000, <http://f1000.com/1164752>)

Awards and Fellowships

2011 – National Science Foundation Graduate Research Fellowship
present

May 2007 Hope Hibbard Memorial Scholarship, Oberlin College, Department of Biology

May 2007 Sigma Xi Scientific Research Society, Associate Member

Teaching Experience

Sept. 2010 – **Teaching Assistant**, University of Notre Dame
May 2011 Department of Biological Sciences

- Prepare weekly laboratory experiments, give lectures introducing topics relevant to experiments, hold weekly office hours, run review sessions
 - BIOS 11161: Biological Sciences I- Lab
 - BIOS 40428: Practical Public Health Microbiology Lab

Oct. 2007 – **Research Technician**, Northwestern University
Aug. 2010 Laboratory of Richard I. Morimoto

- Instructed incoming undergraduates, graduate students and post-doctoral fellows in *C. elegans* techniques and other laboratory procedures

2004 – 2007 **Teaching Assistant**, Oberlin College
Department of Biology

- Prepared weekly laboratory experiments, assisted students with experiments, ran weekly make-up and review sessions
 - BIOL119: Organismal Biology and Genetics
 - BIOL120: Ecology and Evolution

Relevant Coursework

Graduate

Population Genetics, Disease-Related Causes and Consequences of Behavior, Ecological Genetics and Genomics, Advanced Biostatistics, BioFrass Graduate Seminar, Ecology and Evolution of Infectious Disease, Conservation Genetics Seminar

Undergraduate

Organismal Biology, Genetics, Ecology and Evolution, Cell and Molecular Biology, Vertebrate Structure and Evolution, Invertebrate Biology, Evolution, Principles of Organic Chemistry, Statistical Methods for the Biological Sciences, Virology, Mammalian Cell Culture

Skills

Laboratory

Cloning: DNA extraction and purification, agarose gel electrophoresis, PCR, primer design and optimization, site-directed mutagenesis, sequencing, bacterial transformation

RNA Analysis: extraction and purification, qRT-PCR

Protein: extraction, western blot, co-immunoprecipitation

Nematodes: light microscopy, maintenance, freezing, synchronization, motility assays, microinjection, immunostaining

Avian: fecal and blood smears, blood parasite identification, captive songbird husbandry

Cell Culture: maintenance of substrate-adherent and suspension cells, viability assays

Field

Collection of avian blood samples and ectoparasites, mist netting, bird handling and measuring, isolation of free-living soil nematodes, freshwater invertebrate collection

Computer

Network Software Packages: SOCPROG, UCINet, NETDRAW, Cytoscape

Statistical Software Packages: R, JMP