

Department of Biology  
University of Oklahoma  
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Department of Ornithology  
Sam Noble Museum  
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Norman, OK, 73072, USA

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**EDUCATION:**

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Ph.D., Ecology and Evolutionary Biology  
University of Oklahoma (OU); Norman, OK  
PI: Matthew J. Miller

Aug. 2016 – Present

M.S., Biological Sciences  
Wright State University (WSU); Dayton, OH  
PI: Jeffrey L. Peters

May 2014 – Jul. 2016

B. A., Zoology & Latin American Studies  
Miami University (MU); Oxford, OH  
PI: Richard C. Moore

Aug. 2009 – May 2014

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**RESEARCH INTERESTS:**

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I am interested in using next generation sequencing techniques combined with morphometrics to address questions associated with species limits, on a functional genomics level, and to what extent hybridization and introgression play a role in the development or retardation of species formation.

Akin to species limits, I am also interested in understanding the mechanisms associated with population divergence, which ultimately leads to speciation and subsequent biodiversity. I am interested in using genomics and bioinformatics to try to disentangle the respective roles of the various evolutionary forces (e.g., genetic drift, selection, gene flow, etc.) associated with population divergence in birds.

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**RESEARCH EXPERIENCE:**

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Sam Noble Oklahoma Museum of Natural History (Norman, OK)  
Dissertation title: *To be Determined*.

Aug. 2016 – present

Using next generation sequencing to explore the genomics of hybridization and speciation in the *Melanerpes* woodpecker complex. Developing skills in population genomics, **museum ornithology**, **avian field collection**, **avian tissue collection**, and **avian study skin preparation** for housing at the Sam Noble Oklahoma Museum of Natural History.

Wright State University (Dayton, OH)

May. 2014 – Jul. 2016

Thesis title: *Genomic signatures of population history in a pair of recently diverged Australian teal support strong selection on the Z- sex chromosome*.

Used next generation sequencing (ddRAD-seq) to generate >3,000 loci to scan across the Australian Teal genome for evidence of selection and gene flow. Developed skills in **next generation sequencing library preparation**, computing in **Python, R, Perl** and advanced **bioinformatics analysis**.

Miami University (Oxford, OH)

Dec. 2009 – Jun. 2013

Undergraduate research project: *The role of selection in Carica papaya genomic evolution*.

SNP genotyped autosomal loci and determined levels of divergence and signatures of selection

in target loci along the pseudoautosomal boundary in *Carica papaya*. **Developed basic bench skills** associated with DNA sequencing. Also **developed basic skills in bioinformatics**.

The Jackson Laboratory (Bar Harbor, ME)

Jun. 2008 – Aug. 2008

Project title: *microRNA expression patterns in mouse lung development and cancer*.

Analyzed microRNA expression datasets. **Developed basic skills in data analysis**, and basic computer programming (e.g., **Matlab**).

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#### PEER – REVIEWED PUBLICATIONS:

Lappin F, Medart M, **Hawkins KK**, Moore RC. 2015. A polymorphic pseudoautosomal boundary in the *Carica papaya* sex chromosomes. ***Molecular Genetics and Genomics***, DOI: 10.1007/s00438-015-1000.

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#### GRANTS, FELLOWSHIPS AND AWARDS:

American Ornithologist's Union Student Travel Award (\$400)	2015
Student Science Education Award, Ohio Avian Research Conference	2014
Summer Hughes Fellowship, MU (\$3,750 Stipend + Research)	2012
Undergraduate Summer Scholars, MU (\$3,600 Stipend + Research)	2015
Miami University Middletown Chemistry Department Award	2012
Choose Ohio First Bioinformatics Scholarship (\$9,000 Tuition)	2011-2013
Proctor and Gamble Research Award (\$700 Research)	2010
Undergraduate Research and Mentor Scholarship (\$22,500 Tuition)	2010-2013

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#### TEACHING EXPERIENCE:

Ecology, Evolution and Diversity (OU freshman-level course) <i>Teaching assistant.</i>	Spring 2017
Human Physiology (OU sophomore-level course) <i>Teaching assistant.</i>	Fall 2016
Human Biology Lab (Clark State Community College, non-majors) <i>Adjunct Instructor</i>	Spring 2015
Introduction to Molecular Biology (WSU sophomore-level course) <i>Teaching assistant.</i>	Fall 2014, 2015 & Summer 2015, 2016
Introduction to Cell Biology (WSU sophomore-level course) <i>Teaching assistant.</i>	Spring 2015, 2016
Cell Biology (Miami University sophomore-level course) <i>Undergraduate teaching assistant.</i>	Fall 2010

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#### PRESENTATIONS AT PROFESSIONAL MEETINGS:

**Hawkins KK**, Lavretsky P, Peters JL. *Selection drives fast sex-chromosome evolution in a pair of monochromatic / dichromatic Australian Teals*. 2016. Midwest Ecology and Evolution Conference, Oxford, OH.

**Hawkins KK**, Lavretsky P, Nelson JT, Peters, J.L. *Parallel molecular evolution on the Z-chromosome in species of ducks with parallel transition in sexual dichromatism / monochromatism*. 2015. American Ornithologists' Union / Cooper Ornithological Society Meeting, Norman, OK.

**Hawkins KK**, Lavretsky P, Peters JL. *Limited gene flow between two allopatric populations of mottled duck*. 2014. Ohio Avian Research Conference, Granville, OH.

**Hawkins KK**, Brown J, McDermott R, Moore RC. *The role of selection in Carica papaya genomic evolution*. Botanical Society of America Conference, 2012. Columbus, OH. *The role of selection in Carica papaya genomic evolution*. Botanical Society of America Conference, 2012. Columbus, OH

**Hawkins, KK**, Brown J, McDermott R, Moore RC. *The role of selection in Carica papaya genomic evolution*. 2011. Undergraduate Research Forum, Oxford, OH

#### **SCIENTIFIC PRESENTATIONS AS A COLLABORATOR:**

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Peters JL, Lavretsky P, **Hawkins KK**, Nelson J. *Speciation with gene flow in Anas ducks*. 2016. North American Ornithological Conference. Washington, D.C.

Moore RC, Brown J, Lappin F, **Hawkins KK**, McDermott R. *Genomic conflict and the evolution of plant sex chromosomes*. Botanical Society of American Conference. 2013. New Orleans, LA.

Lappin F, Brown J, Weingartner L, **Hawkins KK**, McDermott R, Harkess A, Moore RC. *The investigation of selective sweeps within the Carica papaya X chromosome*. Botanical Society of America Conference, 2012. Columbus, OH

Brown J, Lappin F, Weingartner L, **Hawkins KK**, McDermott R, Harkess A, Moore RC. *Expanding our understanding of the evolution of the Carica papaya X and Y chromosomes*. Botanical Society of America Conference, 2012. Columbus, OH

Brown J, **Hawkins KK**, McDermott R, Moore RC. *The relationship between recombination and genomic diversity in Carica papaya*. Botanical Society of America Conference, 2012. Columbus, OH

#### **MUSEUM EXPEDITIONS:**

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*Expedition member:*

Lubbock, TX, USA – Oct. 2016

SNOMNH Expedition near Lubbock, TX and Dickens, TX (2 days)

Altus, OK, USA – Aug. 2016

SNOMNH Expedition to Southern Oklahoma near the Red River (2 days)

Kingston, OK, USA – Aug. 2016

SNOMNH Expedition to the Oklahoma Biological Station (2 days)

#### **PROFESSIONAL MEMBERSHIPS:**

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American Ornithologists' Society	2015
Society for the Study of Evolution	2015
National Council for Undergraduate Research	2011