

KELLY ANN HEILMAN

kellyannheilman@gmail.com | 190 Galvin Life Sciences Notre Dame, IN | PhD. Candidate

Education

University of Notre Dame – Notre Dame, IN Since 2013
PhD. Candidate Biological Sciences
Advisor: Jason S. McLachlan
Dissertation Topic: *Impacts of land use, climate, and CO₂ changes on both tree drought sensitivity and biome stability of temperate savannas and forests*

Kenyon College – Gambier, OH May 2012
B.A. Biology with Distinction | Minor: Environmental Studies | Magna Cum Laude

Grants & Fellowships

National Science Foundation Doctoral Dissertation Improvement Grant Feb. 2017
National Science Foundation | DEB-1701897 | \$20,085

Center for Environmental Science & Technology (CEST) Bayor Fellowship May 2017
CEST | \$10,500

UNDERC Mentoring Fellowship May 2017
UNDERC | \$6,000

Arthur J. Schmitt Leadership Fellowship 2013-2018
Arthur J. Schmitt Foundation | \$30,000/year

Leslie Douglas Frye Scholarship to Attend Kenyon College 2008-2012
Saint Joseph Academy | \$5000/year

Dr. Kirby Walsh Sullivan Scholarship for Promising Students in Science 2009-2012
Kenyon College | \$2000/year, 3 years

Travel Awards

Zahm Professional Development Grant Aug. 2017
Notre Dame Graduate School Professional Development | \$500

Graduate Student Union Conference Presentation Grant Aug. 2017 & Dec. 2015
Notre Dame Graduate Student Union | each \$250

Society of Schmitt Fellows Conference Presentation Grant Aug. 2017 & Dec. 2015
Society of Schmitt Fellows University of Notre Dame | each \$250

Research Experience

PhD. Candidate - University of Notre Dame 2013 - present
Graduate Research Assistant

- Investigate how environmental changes affect both the large-scale distribution of woody biomes, and tree – level responses to drought. Specifically, my dissertation focuses on how historic changes in land use, climate, and CO₂ have impacted the stability of the temperate savanna-forest biome boundary using historic datasets, dendrochronology, and stable isotope geochemistry.

Aquatic Research Technician - Cleveland Metroparks 2012 - 2013

- Performed both fish and aquatic invertebrate sampling for EPA QHEI headwater stream restoration assessments. Led aquatic ecology field trips, and contributed to fishing expo outreach events.

Toucan Research Assistant - Centro Agronómico Tropical de Investigación y Enseñaza 2013

- Tracked the home ranges and seed dispersal of two species of Toucans in Turrialaba, Costa Rica. This work contributed to the dissertation of Landon Jones (PhD candidate) at University of Louisiana.

Kenyon College Summer Science Research Scholar – Kenyon College 2011

- Investigated the potential impacts of climate change on the reproduction of threatened minnow species Redside dace (*Clinostomus elongates*).

Honors & Awards

Saint Joseph Academy Alumni “25 under 35” Award June 2016
Saint Joseph Academy

Distinction Award Biology Senior Exercise May 2012
Kenyon College Biology Department

Professional Memberships

American Geophysical Union 2015 - present

Ecological Society of America 2017 - present

Association for Women in Science 2016 - present

Teaching and Professional Experience

General Ecology Lab – University of Notre Dame

Fall 2014, 2016 & 2017

Teaching Assistant

- Teaching assistant duties include preparing field discussions and experiments, leading field trips, advising students on data analysis, developing student scientific writing and intellectual virtues, and grading all material.

UNDERC Summer Course–Notre Dame Environmental Research Center

Summer 2017

Research Mentor

- Mentored two undergraduate students on independent summer research projects. This included teaching students dendrochronology methods, forestry field data collection, implementing statistics using R, and the scientific writing process

General Biology Lab – University of Notre Dame

Spring 2015

Teaching Assistant

- Teaching assistant duties include preparing introductory lectures, setting up lab equipment, advising students on independent research projects, and grading all material.

Aquatic Systems Biology Laboratory - Kenyon College

Fall 2011

Teaching Assistant

- Teaching duties included organizing lab materials, bringing students on field expeditions, and teaching students aquatic ecology methods.

Introductory Biology Laboratory – Kenyon College

2010 – 2012

Teaching Assistant

- Teaching duties included assisting instructor in preparing lecture and experimental design methods, and leading students through experimental protocols

Microscopy Laboratory – Kenyon College

Spring 2011

Preparation Assistant

- Prepared mammalian cell cultures, lab materials for each lab meeting, as well as helped to develop lesson plan each week

Introductory Biology Laboratory - Kenyon College

Fall 2010

Preparation Assistant

- Assisted with weekly lesson plans. Prepared equipment needed for each lab section.

Volunteer & Service

University of Notre Dame Graduate Student Union 2017-2018

Social chair and community engagement chair

- Coordinate Campus wide social and community engagement events for graduate students and families, including a Charity Gala
- Voting member of Notre Dame GSU

Society of Schmitt Fellows University of Notre Dame 2015-2017

Treasurer

- Handled Society of Schmitt Fellows annual budget
- co-organized a fund for Conference Presentation Travel Grants

Society of Schmitt Fellows University of Notre Dame 2013-2017

Social Chair

- Co-organized monthly social activities for STEM graduate students

Society of Schmitt Fellows University of Notre Dame 2017

Professional Development Committee

- Co-organizing a panel for Notre Dame Graduate Students on networking in STEM fields

Arther J. Schmitt Leadership Conference Sept. 2017

Graduate Student Mentor

- Mentored Undergraduate and High School Scholars and developed a time management workshop during the conference

STEM Programming at the Boys and Girls Club of South Bend 2016-2017

STEM Programming Volunteer

- Organized weekly science activities for elementary school students in the Boys and Girls Club after school program

Planting Science Mentor Fall 2017

Scientist Mentor

- Mentored High School Science classes during independent research projects online

CCC (Camera's, Climbing, and Conservation) Mentor Fall 2014

Graduate Student Mentor

- Mentored Junior High School Students in a multi-week program that encourages students to explore the world through adventure, creative work, and conservationist values

Society for Schmitt Fellows 2013

Outreach Committee

- Organized volunteer work at a local Petco adoption drives

Presentations

Oral Presentations:

Kelly Heilman, Jason McLachlan, Carla Staver, *Stabilization of savanna-forest alternative states to closed forests after ~150 years of land use and climate changes*. August, 2017 Ecological Society of America

Kelly Heilman, Jason McLachlan. *What controls temperate savanna tree growth?* July, 2016. North American Prairie Conference.

Kelly Heilman, Jason McLachlan *Using GIS to investigate controls on vegetation at the prairie-forest boundary*. November 16th, 2016. University of Notre Dame GIS day.

Kelly Heilman, Jason McLachlan, Carla Staver. *Investigating controls of tree density and resilience to environmental changes at the prairie-forest boundary*. November 2016. Biofrass Seminar Presentation, University of Notre Dame.

Kelly Heilman, Jason McLachlan. *Quantifying vegetation structure and environmental drivers across a historic Prairie-Forest Biome Boundary*. January 8th, 2016. Harvard Forest Seminar Talk.

Poster Presentations

Kelly Heilman, Jason McLachlan, A. Carla Staver, *The role of disappeared disturbances in driving the North American prairie-forest boundary*. American Geophysical Union 2016

Heilman, K., McLachlan, J. Feng, X. 2015. *Convergent Ecosystems from Divergent Environmental Drivers: revisiting drivers of the past prairie-forest ecotone across the North American Prairie Peninsula*. American Geophysical Union 2015

Heilman, K., Pitcher, T.P., Heithaus, E.R. 2011. *Is sperm motility correlated with red spawning coloration in Redside Dace (*Clinostomus elongatus*)?* Kenyon College Summer Science Scholar Research Symposium 2011

Publications

In prep:

Heilman, K.A., McLachlan, J.S., Staver, C.A., Goring, S., Williams, J. Alternate Stable States in the Temperate Savanna-forest Biome.

Submitted:

Broderick, C.M., **Heilman, K.A.**, Peterson, T., Peters, J.A., and McLachlan, J.S. "Sharp Savanna-Forest Transitions in the Midwest Historically Followed Environmental Gradients but Are Absent from the Modern Landscape" Submitted May 2017