

John L. Smith

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Education

University of Chicago, Chicago, IL, May 2020

Doctor of Philosophy in Biology, Area of Specialization: Ecology

Dissertation: “Mating patterns of the southeastern blueberry bee *Habropoda laboriosa*: Implications for fecundity and survivorship”

Faculty Advisor: Dr. XXX XXX

GPA: 3.5

Northeastern Illinois University, Chicago, IL, May 2016

Master of Science in Biology

Thesis: “Impact of avian predation on *Anolie* lizards in the eastern Caribbean and the importance of differences in spatial scale between prey and predators”

GPA: 3.75

Northeastern Illinois University, Chicago, IL, May 2014

Bachelor of Science in Biology, Minor in Environmental Science

Honors in Biology, Thesis: “Effect of erosion and sedimentation pollution on the Yadkin River”

GPA: 3.8

Research Interests

- Theoretical and field study of ecological communities
- The roles that spatial patterns and processes play in shaping communities
- How populations and processes that act on different spatiotemporal scales affect the behavior of ecological systems
- Influences of disturbance size and frequency on landscape structure

Research Experience

Lead Researcher, **Department of Biology, University of Chicago**, Fall 2016– Present

Research Advisor: Dr. Jerry Jones

- Record foraging flights of 1,200 *Habropoda laboriosa*
- Observe mating habits of *Habropoda laboriosa* in both field and laboratory conditions
- Monitor population increases and decreases over a six month period
- Determine effect of air pollutants on bee population
- Supervise two undergraduate assistants who compile data
- Will present results to 100 ecologists at the Ecological Society of America annual meeting in Orlando, FL in April 2020

Research Fellow, Bee Research and Discovery Center, University of Minnesota, St. Paul, MN, Summer 2019

Research Advisors: Dr. Steve O'Henry and Dr. Marla Vickers

- Developed quantitative theory of hierarchical structure of *Apis mellifera* in ecological systems
- Analyzed how *Apis mellifera* communities reflect environmental heterogeneity
- Studied foraging behavior of over 25,000 *Apis mellifera* with short and long range movement in heterogeneous environments

Independent Researcher, Leipzig, Germany, Summer 2018

Research Advisor: Dr. Josef Lamberts

- Collaborated with researchers at the Helmholtz Centre for Environmental Research in Leipzig, Germany to study the decline in bee populations in Europe
- Analyzed how pollution and pesticides have affected bee population decline
- Submitted findings to ALARM (Assessing Large scale environmental Risks for biodiversity with tested Methods), the largest biodiversity research project in Europe
- Research fully funded through University of Chicago Richter Scholars Program

Lead Researcher, Department of Biology, Northeastern Illinois University, Fall 2014 – Spring 2016

Research Advisor: Dr. James Franks

- Studied impact of avian predation on *Anolie* lizards in the eastern Caribbean and the importance of differences in spatial scale between prey and predators
- Analyzed spatial scale and environmental heterogeneity in predator-prey communities
- Determined through analytical and numerical data how species interactions can sharpen underlying environmental patterns and how heterogeneous environments can stabilize predator and prey populations

Lead Researcher, Department of Biology, Northeastern Illinois University, Fall 2014 – Spring 2015

Research Advisor: Dr. Penelope Williams

- Measured erosion and sedimentation pollution in the Yadkin River
- Based on findings, made recommendations of ways to curb erosion and pollution in the river to Yadkin County Environmental Affairs Office

Other Experience

Teaching Assistant, Department of Biology, University of Chicago, Fall 2017 – Present

- Teach 45 students each semester in Introduction to Biology laboratory exercises
- Design weekly laboratory assignments to enhance and reiterate basic biological concepts introduced in class lectures
- Lead lectures in absence of professor, approximately two times each semester
- Assist in preparation and grading of mid-term and final examinations

Tutor, Learning Assistance Center, Northeastern Illinois University, Spring 2013 – Spring 2016

- Tutored students both individually and in small groups in Introduction to Biology, Cellular Biology, Microbiology, and Ecology

Instructor, Outward Bound, Linville, NC, Summers 2013 and 2014

- Led six-day canoe and hiking trips, with attention to Appalachian natural history, for groups of 10 middle school boys
- Taught animal tracking, avalanche safety, kayaking, mountaineering, and rock climbing

University Service

Instructor, Outdoor Education Program, University of Chicago, Fall 2018 – Present

- Present lectures and weekend outings with emphasis on alpine ecology, animal tracking, and wilderness skills to groups with basic to advanced knowledge of ecology
- Teach basic first aid and wilderness survival techniques

President, Deacs Recycle, Northeastern Illinois University, Fall 2013 – Spring 2014

- Raised awareness of environmental issues on campus and in community
- Organized paper recycling drive that resulted in 2,000 pounds of recycled paper
- Led effort to supply every residence hall room with recycling bin

Publications and Presentations

Smith, J.L. and J.T. Jones. Predation across spatial scales in heterogeneous environments, *Journal of Population Biology* (in press).

Smith, J.L. and J.T. Jones. (2019). Predation across spatial scales in heterogeneous environments. Paper presented at the American Biological Society Annual Meeting, Chicago, IL, October 2018.

Jones, J.T. and J.L. Smith. (2019). Pattern and stability in predator-prey communities: how diffusion in spatially variable environments affects the Lotka-Volterra model, *Theoretical Population Biology*, 15(30), 31-35.

“Avian predation on *Anolis* lizards.” Paper presented at the Ecological Society of America Annual Conference, Snowbird, UT, February 2018.

Smith, J.L. and J.L. Franks. (2016). Avian predation on *Anolis* lizards in the northeastern Caribbean: an Inter-island contrast, *Ecology*, 70, 617-628.

“Effect of erosion and sedimentation pollution on the Yadkin River.” Poster presented at Student Research Symposium, Wake Forest University, April 2014.

Laboratory and Computer Skills

Northern blotting; SDS-PAGE; microinjection; spectrophotometry
Microsoft Word, Excel, PowerPoint; Dreamweaver; SPSS; ArcView; BioCom

Professional Memberships

Ecological Society of America, Fall 2016 – Present

American Biological Society, Fall 2016 – Present
Beta Beta Beta, Fall 2012 – Present

Selected Honors, Awards, and Fellowships

Doctoral Student Full Tuition Scholarship, University of Chicago, 2016 – 2020
Research Fellowship, Bee Research and Discovery Center, University of Minnesota, 2019
Richter Scholarship, University of Chicago, 2018

References

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