Austin M. Smith, Ph.D.

Curriculum Vitae

(352) 283-9719 | amsmith.ecology@gmail.com | www.amsmithecology.com

EDUCATION

December 2024	**Doctor of Philosophy**, University of South Florida, Tampa, FL Major: Integrative Biology - Ecology & Evolution Advisor: Andrew M. Kramer Dissertation: "Species distribution models with environmental time series data and deep learning*"*
May 2018	**Master of Science**, University of Florida, Gainesville, FL Major: Interdisciplinary Ecology – Wildlife Ecology & Conservation Advisors: Wendell P. Cropper Jr.; Michael Moulton Thesis: "A comparison of machine learning methods to classify Chukar Partridge (*Alectoris chukar*) establishment patterns in Washington state"
August 2013	**Bachelor of Arts**, University of Florida, Gainesville, FL Major: Mathematics Minor: Secondary Education

ACADEMIC APPOINTMENTS

May 2020 – Dec. 2024 **Graduate Research Assistant**, University of South Florida, Tampa, FL

Contributed projects include:

- Assessing spatial patterns of invasive pathway
- Nowcast modeling of Covid-19 infections
- Integrating time series analysis into long-term species dispersion models
- Correlating environmental factors to presence of Chronic Wasting Disease

Duties included: conducting literature reviews to gather relevant academic sources and synthesize findings; data collection through fieldwork, surveys, lab experiments, and other research methods.; analyzing research data via statistical software and supporting the interpretation of results; and contributing to the writing of research papers, reports, and other academic documents.

Aug. 2019 – May 2024 **Graduate Teaching Associate,** University of South Florida, Tampa, FL
Duties included: Preparing course materials, delivering lectures, and facilitating recitation or review sessions; grading/assessing student work, including assignments, exams, and lab reports; overseeing course platforms (e.g., Canvas), distributing materials, and addressing student questions; and holding scheduled office hours to offer academic guidance to students, clarifying course content, assisting with assignments, and preparing for exams.

Oct. 2018 – Jan. 2020 **Research Assistant,** University of South Florida, Tampa, FL
Contributed projects include:

- Determining best statistical protocols for modeling invasive species spatial distributions

Duties included: conducted literature reviews to gather relevant research for ongoing projects; assisted with data collection for research projects and lab experiments; analyzed data using statistical software and helped interpret the results; and write research papers, reports, and contributing to peer-reviewed journal articles.

Aug. 2015 – Jun. 2018 **Graduate Teaching Assistant,** University of Florida, Gainesville, FL
Duties included: Perform independent research under the guidance of faculty members; analyze and simulate data for faculty research projects; assist with literature searches; conduct and assist classroom lectures; overseeing course platforms (e.g., Canvas), distributing materials, and addressing student questions; hold scheduled office hours to offer academic guidance to students, clarifying course content, assisting with assignments, and preparing for exams; and participate in field studies and record avifaunal behavior, presence, distribution, and habitat usage

GRANTS & FELLOWSHIPS

Aug 2023 – Dec 2023	*Dissertation Completion Fellowship*, Office of Graduate Studies, University of South Florida, Tampa, FL. $9,000 + tuition & fees
June 2023	*Conference Travel Award*, Department of Integrative Biology, University of South Florida, Tampa, FL, $2236.67
June 2017	*Conference Travel Funding*, Department of Wildlife Ecology and Conservation, University of Florida, $1300

PEER-REVIEWED PUBLICATIONS

Published:

- **A. M. Smith**, W. P. Cropper Jr., M. P. Moulton. 2021. A quantitative assessment of site-level factors in influencing Chukar (*Alectoris chukar*) introduction outcomes. https://doi.org/10.7717/peerj.11280

In review:

- **A.M. Smith**, C. Capinha, A. M. Kramer. Incorporating environmental time series into species distribution models. *In review*
    - **Pre-print available on bioRxiv**: https://doi.org/10.1101/2022.10.26.513922

In preparation:

- **A. M. Smith**, W. P. Cropper Jr., M. P. Moulton. Machine learning as a tool for managing game bird introductions.
- M. P. Moulton, W. P. Cropper Jr., **A. M. Smith**. A comment on Rock Partridge (*Alectoris graeca*) introductions.
- **A.M. Smith**, A. M. Kramer. Assessing deep learning protocols for optimizing time series-based species distribution models
- **A.M. Smith**, A. M. Kramer. Forecasting Species Distributions with Time Series Classification Models

PRESENTATIONS

** Presenting author*

Contributed:

- **A. M. Smith**, W. P. Cropper Jr.*, M. Moulton. Introductions of chukars (*Alectoris chukar*) in the United States. 85th Annual Meeting of the Association of Southeastern Biologists. March 2024, Chattanooga, TN
- **A. M. Smith***, C. Capinha, A. M. Kramer. Species distribution modeling with time series data and deep learning. (poster). University of South Florida Artificial Intelligence + X Symposium. September 2023, Tampa, FL.
- **A. M. Smith***, A. M. Kramer. Assessing deep learning protocols for optimizing time series-based species distribution models. (poster). Ecological Society of America Annual Meeting. August 2023, Portland, OR.
- **A. M. Smith***, C. Capinha, A. M. Kramer. Predicting species distributions with environmental time-series data and deep-learning. Ecological Society of America Annual Meeting. August 2021, Virtual.

- **A. M. Smith*,** W. P. Cropper Jr., M. Moulton. A comparison of machine learning methods to classify Chukar Partridge (*Alectoris chukar*) establishment patterns in Washington State. (poster). Ecological Society of America Annual Meeting. August 2018, New Orleans, LA.

Invited:

- University of South Florida, Department of Integrative Biology seminar series. A comparison of machine learning methods to classify chukar establishment patterns in Washington state. November 2019.

- University of South Florida, USF Math Club speaker series. Mathematics and machine learning: tools for niche theory & species distribution models. October 2019.

COURSE TAUGHT

Primary instructor:

- **Instructor**, BSC2011L – Biodiversity, University of South Florida. Lab. 2 sections, 24 students (each).
    - Semesters taught: Fall 2024; Spring 2023; Fall 2022; Spring 2020; Fall 2019.

- **Instructor**, PCB3043L – Principles of Ecology, University of South Florida. Lab. 2 sections, 23 students (each).
    - Semesters taught: Spring 2022

Secondary instructor

- **Teaching Assistant**, BSC2011 – Biodiversity, University of South Florida. Lecture. 1 section, ~250 students.
    - Semesters taught: Spring 2023

- **Teaching Assistant**, WIS 2040 – Wildlife Issues in a Changing World, University of Florida. 3 section, ~ 150 students (each).
    - Semesters taught: Spring 2018; Fall 2017; Summer 2017; Spring 2017; Fall 2016; Summer 2016; Spring 2016

- **Teaching Assistant**, WIS 2552 – Biodiversity Conservation: Global Perspectives, University of Florida. Online. 1 section, 50 students.
    - Semesters taught: Spring 2018; Fall 2017; Summer 2017; Spring 2017; Fall 2016; Summer 2016; Spring 2016

Guest lecturer:

- PCB 6456C – Biometry (graduate course), University of South Florida. Lecture and lab. Spring 2024

- PCB 6456C – Biometry (graduate course), University of South Florida. Lecture and lab. Spring 2023

MENTORING

- Jordan Kaszyk (B.S. Cellular and Molecular Biology, University of South Florida. Spatial modeling of Chronic Wasting Disease. Spring 2020 – Summer 2022

- Raquel Gonzalez (B.S. Integrative Animal Biology), University of South Florida. Spatial modeling of invasive species. Fall 2019

PROFESSIONAL SERVICES

Journal Reviews:
- General Ecology: Ecosphere (1)

Community Experience:

2018 – Present *Lead Caretaker & Community Educator*, Bird of Prey Aviary, Boyd Hill Nature Preserve, St. Petersburg, FL

Professional Affiliations:
American Association for the Advancement of Science (2018-2021); American Ornithological Society (since 2018); British Ecological Society (since 2022); Ecological Society of America (since 2017); The Wildlife Society (since 2018)