LAUREN HOLIAN

EDUCATION

University of South Carolina **Columbia, SC**
PhD in Biological Sciences, advisor Dr. Tad Dallas 2022-Present
Louisiana State University **Baton Rouge, LA**
PhD in Biological Sciences, advisor Dr. Tad Dallas 2021-2022
University of Florida **Gainesville, FL**
Master of Science in Zoology, advisor Dr. Jamie Gillooly 2019
Bachelor of Science in Integrative Biology: Honors Program & Magna Cum Laude 2018
Minor in Sustainability Studies 2018

RESEARCH & FIELD WORK

Macroecology & Disease: Dallas Lab November, 2020 – Present

- NSF Macrosystems project
  - Project lead on interaction of spatial and temporal patterns in abundance-occupancy relationships
  - Collaboration on the evaluation of occurrence of abundance-occupancy relationships across diverse taxa and spatial scales
- VERENA collaborations
  - Host-pathogen diversity of helminths & viruses
  - Relationships of pathogen prevalence and infection intensity
- *Tribolium castaneum* lab management

Invasive Cane Toad Collection: Zoo Miami August, 2020

- Annual nocturnal collection of invasive amphibians
- Cane toads of appropriate size were sent for dissection & analysis

Functional Ecology & Evolution: Gillooly Lab August, 2016 – 2019

- Thesis Project: Host cell volume explains differences in the size of dsDNA Viruses
  - Evaluation of virus-host size relationships for dsDNA viruses infecting the three domains of life using two measures of size (genome size and cell volume)
  - Comparison of virus-host relationships across domains and between size measures
  - Data compilation from NCBI and primary literature, statistical analysis in R
  - Responsible for all stages of project development (primary literature search, data collection, analysis, presentation, and publication)
  - Advisor: Dr. Jamie Gillooly
- Vertebrate brain evolution & scaling project
  - Analysis of brain size across vertebrate groups and potential life history trade-offs
  - Mentorship of undergraduate research team
  - Analysis using R programming

Project Assistant: PORTAL Ecological Project October, 2018 & January, 2019

- Rodent surveys as part of 40 year ecological dynamics project
- Multi day sessions of rodent trapping/handling, species ID, weighing, and sexing

Native Trout Conservation: Yellowstone National Park May – August, 2018

- Intern on three person backcountry streams crew through SCA/AmeriCorps
- Extensive hiking (7-14 miles/day) and multiday backcountry work
- Surveying streams: Electroshocking/netting skills, genetic sampling (fin clips & scale removal), eDNA collection (environmental DNA), and mechanical removal of invasives
- Stream stocking: Hiking in and placement of fry/eggs, implementation and maintenance of RSI's (Remote Site Incubators)
- Annual Lake Population Assessment: 10 day intensive surveying of Yellowstone lake requiring 10+ hour days of gill netting, species ID, otoliths removal, sexing and data entry
- Other skills: Telemetry tracking, net repair and development of SCA outreach project

Sexual Selection & Spider Behavior: Taylor Lab January, 2014 – May, 2016

- Responsible for jumping spider breeding/rearing, daily care, and color preference tests
- Field collection of spiders and termites at various sites
- Website Manager

Lepidoptera Systematics: Florida Museum of Natural History August – May, 2015

- Morphological illustration of tropical butterflies' genitalia for species identification

PUBLICATIONS & PRESENTATIONS

In progress- **Holian, L.A.**, Foster, G., Ten Caten, C., Dallas, T.A. Positive scaling of pathogen prevalence with infection intensity.

In progress- **Holian, L.A.**, Dallas, T. Diversity of helminths and viruses across mammalian hosts.

In progress- **Holian, L.A.**, Ten Caten, C., Dallas, T. Interaction of spatial and temporal patterns in abundance-occupancy relationships.

Accepted- Ten Caten, C., **Holian, L.A.**, Dallas, T. (2022). Weak but consistent abundance-occupancy relationships across taxa, space, and time. *Global Ecology and Biogeography*

Richards, R.L. & **Holian, L.A.** (2022). Dispatch Article—Infectious disease: Dog diets may drive transmission cycles in human Guinea worm disease. *Current Biology*

Holian, L.A., Anderson, D.M, Gillooly, J.F. (2020). Host Cell Volume Explains Differences in the Size of DsDNA Viruses. *Virus Research*

Dallas, T., **Holian, L.A.**, Foster, G. (2020). In Focus Article—What determines parasite species richness across host species? *Journal of Animal Ecology*

Powell, E. C., Cook, C., Coco, J., Brock, M., **Holian, L. A**., & Taylor, L. A. (2019). Prey colour biases in jumping spiders (Habronattus brunneus) differ across populations. *Ethology*.

Nakahara, S., Zacca, T., Huertas, B., Neild, A. F., Hall, J. P., Lamas, G., **Holian, L.A**., Espeland, M., Willmott, K. R. (2018). Remarkable sexual dimorphism, rarity and cryptic species: a revision of the 'aegrota species group'of the Neotropical butterfly genus CaeruleuptychiaForster, 1964 with the description of three new species (Lepidoptera, Nymphalidae, Satyrinae). *Insect Systematics & Evolution*, *49*(2), 130-182.

Lead Author Presentations

"Interaction of spatial & temporal patterns in abundance-occupancy relationships" – ESA Annual Conference 2021
"Scaling of Pathogen Diversity in Mammalian Hosts" – LSU Biograds Symposium 2021
"Old Viruses, New Questions" – UF Biology Department Retreat 2019
"Estimating Viral Carbon Across Oceans" – UF Ecology Seminar 2019
"Viruses Can't Take the Heat" Poster

- Regional: University of Florida Water Institute 2018 Symposium 2018
- UF Biology Symposium 2017
- UF Genetics Symposium 2017
- UF Fall Symposium 2017
- UF Biology Symposium 2017

"Prey Color Aversions in Jumping Spiders Differ Across Populations" – UF Undergraduate Res. Symposium 2016

Co-Author Presentation

Ten Caten C., **Holian L**., Dallas T. Abundance-occupancy relationships are temporally stable but dependent on spatial scale. NSF Macrosystems PI Meeting. January 13-14, 2021
Powell E., Cook C., Coco J., Brock M., **Holian L.**, Taylor. Prey color aversions in jumping Spiders differ across populations. Poster Presentation, 45th meeting of the Australian Society for the Study of Animal Behaviour. Mooroolbark, Victoria, Australia, July 2017.

TEACHING EXPERIENCE

Graduate Teaching Assistant: Louisiana State University January, 2021 – Present

- Biology Lab 2: 1 credit course, 48 students, 6 hours/week
    - Lab Instruction & grading of writing assignments
    - Proctoring exams

Guest Speaker: Archbishop Coleman F. Carroll High School February 2020

- Biodiversity & Conservation (Patterns, significance, and how to contribute)

- Spoke with 3 classes ranging from 15-40 students
- Loosely structured discussion that allowed students to engage in various aspects

Graduate Teaching Assistant: University of Florida August, 2018 – August, 2019

- Interdisciplinary lab (X-Lab 1/2): 3 credit course, 16 students, 6 hours/week
  - Biology/Physics/Chemistry
  - Grading and distilment of classroom material
  - Editing lab manuals & providing course feedback
- Biology Lab 1: 1 credit course, 20 students, 4 hours/week
  - Development of lecture and quiz materials, grading all assignments and assessments
  - Lab set up/clean up and proctoring exams

ANIMAL HUSBANDRY

Hoofstock Keeper 1: Zoo Miami February, 2019 – August, 2020

- Primary Focus: Black rhinos & Greater one horned rhinos; Others: Giant Eland, Okapi, giraffes, zebra, addra gazelle, duikers, kudu, pygmy hippos, nyala, arabian oryx, addax, banteng, steembok, bongo
- Daily maintenance routines, record animal behavior observations and maintain individual records
- Assist in medical procedures and operant conditioning training for voluntary blood draws and injections
- Public engagement with species natural history and conservation

Hoofstock Keeper Aide: Zoo Miami August, 2019 – February, 2019

- Awarded 'Out of Class License'
  - Responsibilities and expectations of a Keeper 1
  - Participate in training and medical sessions

Lubee Bat Conservatory September – October, 2017

- Weekly volunteer responsible for diet preparation, habitat maintenance and record keeping

Animal Science Internship: Pachyderm Team, Zoo Miami May – August, 2017

- Full time intern responsible for daily care of Asian & African elephants, black & Indian rhinos, and Banteng
- Daily activities: Food & enrichment preparation, delivering educational talks to the public, habitat maintenance
- Projects: Development of habitat enrichment and analysis of records for indicators of animal behavior

OUTREACH

CodeFest/MakerSpace November 5/December 3, 2021

- Programming & hardware construction events targeted at building interdisciplinary connections across the LSU College of Science, fostering creativity and teamwork, and providing students experience in data science

Watershed Cleanup December 4, 2021

Keeper Talks: Zoo Miami August, 2019 – May, 2020

- Daily keeper talks (15-30min) with the public regarding rhino natural history, phylogeny, husbandry, and conservation
- Volunteered for Instagram virtual keeper talk (Covid-19 zoo closure)

Leader: C.I.F.A.E. Nonprofit (Conservation Initiative for the Asian Elephant) January, 2017 – August, 2019

- Responsible for developing educational/informational material for CIFAE website and community events
- Coordinator of monthly farmers market tabling and outreach
- Management/support of all events: Global March(Elephants & Rhinos), VegFest, documentary screenings, etc.

Wetlands Club President: University of Florida August, 2016 – May, 2018

- Salt marsh planting/restoration: Living Shoreline Project on Cedar Key
- SEEP wetland maintenance: Boardwalk repair and removal of non-wetland species
- Environmental Outreach: Wetland workshops with children, young adults and adults, water runoff demonstrations/interactive presentations and participation in local BioBlitz

HONORS & AWARDS

McDaniel Travel Award —Louisiana State University 2021
Magna Cum Laude —University of Florida 2018
Dean's List: Fall '14-17, Spring '15, 17, 18 —University of Florida 2014 – 2018
University Scholars Research Grant Recipient —University of Florida 2017
University Scholars Research Grant Recipient —University of Florida 2016
Study Abroad Merit Scholarship —University of Florida 2015

SKILLS & MISCELLANEOUS

Advanced: Use of R for statistical analyses and data representation
Languages: English and advanced Spanish
Personal: Dedicated, take initiative, strong collaborator