Connor **French**

PhD Candidate

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Education

City University of New York — *New York, New York*

PhD Candidate, Biology- Ecology, Evolution, and Behavior — *2018 - 2024*

Southern Illinois University — *Carbondale, Illinois*

M.S., Zoology — *2016 - 2018*

University of Texas — *Austin, Texas*

B.S., Biology- Ecology, Evolution, and Behavior — *2011 - 2015*

Professional experience

Graduate Research Assistant — *City University of New York*

Michael J. Hickerson Lab — *2018 - 2024*

- Investigating evolutionary responses to environmental change across spatial scales.

Software Developer — *University of Maine*

Andrew Rominger — *2022 - 2023*

- Developed an R Shiny web application to simulate community assembly using the Rules of Life Engine model. It is meant to facilitate education and research.

Assistant Project Manager — *University of California- Berkeley*

Insights from Macro-Ecology and Macro-Evolution for Biodiversity Assessment — *2023 - 2023*

- Co-organized meetings and progress monitoring for 10 research projects following an NSF-funded workshop on bridging biodiversity disciplines
- Coordinated data deposition and access across projects
- Contributed to a white paper and multiple project manuscripts that stemmed from the workshop

Digital Fellow — *City University of New York*

Graduate Center — *2019 - 2021*

- Consulted on technical projects across disciplines.
- Delivered workshops to multi-disciplinary audiences on topics like R, Python, GIS, reproducible analysis, text analysis, data visualization, and data wrangling.
- Formed the CUNY R User Group and held monthly meetings.

Graduate Research Assistant — *Southern Illinois University*

Jason L. Brown Lab — *2016 - 2018*

- Completed thesis work on the evolution of Andean poison frogs.

Research Assistant — *University of Texas*

Texas Biodiversity Collections — *2016 - 2016*

- Herpetology Division
- Supported data collection and collections management for conservation efforts.

Undergraduate Researcher — *University of Texas*

Daniel I. Bolnick Lab — *2013 - 2014*

- Completed an independent project through the National Science Foundation Research Experience for Undergraduates. Experimental design, field work in British Columbia, lab work, data analysis, and first-author publication.

Undergraduate Researcher — *University of Texas*

David Cannatella Lab — *2013 - 2014*

- Field work in support of frog acoustic research.

Field Technician — *Middlesex, Belize*

Toucan Ridge Ecology and Education Society — *2014*

- Designed and executed field protocols for monitoring amphibian populations.

Collections Assistant *University of Texas*

Texas Biodiversity Collections *2014*

- Ichthyology Division
- Collected and analyzed fish morphometric data for taxonomic research and digitized research collections.

Preprints

Publications

Global determinants of insect mitochondrial genetic diversity (2023)

Nature Communications. 14:5276.

- *French, C.M.*, Bertola, L.D., Carnaval, A.C., Economo, E.P., Kass, J.M., Lohman, D.J., Marske, K.A., Meier, R., Overcast, I., Rominger, A.J., Staniczenko, P., Hickerson, M.J.

Forest cover and geographical distance influence fine-scale genetic structure of leaf-toed geckos in the tropical dry forests of western Mexico (2022)

Biological Journal of the Linnean Society. 137(4), pp. 686-699

- *French, C.M.*, Berezin, C.T., Overcast, I., De La Cruz, F.R.M., Basu, S., Bernal, R.L.M., Murphy, R.W., Hickerson, M.J., Blair, C.

Phylogenetic relationships and systematics of the Amazonian poison frog genus Ameerega using ultraconserved genomic elements (2020)

Molecular Phylogenetics and Evolution. 142, 106638.

- Wilson, G.X., *French, C.M.*, Twomey, E.M., Chávez, G., Prates, I, von May, R., la Riva, I.D., Lötters, S., Reichle, S., Serrano-Rojas, S.J., Whitworth, A., Brown, J.L.

Morphological correlates of invasion in Florida cane toad (Rhinella marina) populations: Shortening of legs and reduction in leg asymmetry as populations become established (2020)

Acta Oecologica. 109, 103652

- Rubio, A.O., *French, C.M.*, Catenazzi, A.

Speciation with introgression: Phylogeography and systematics of the Ameerega petersi group (Dendrobatidae). (2019)

Molecular Phylogenetics and Evolution. 138, 31-42.

- *French, C.M.*, Deutsch, M.S., Chávez, G., Almora, C.E., Brown, J.L.

The tadpole of Ameerega boehmei in southeastern Bolivia (2019)

Zootaxa. 4661, 1.

- *French, C.M.*, Burkette, C., Reichle, S., and Brown, J.L.

Geographical variation in colour of female threespine stickleback (Gasterosteus aculeatus). (2018)

PeerJ. 6:e4807.

- *French, C.M.*, Ingram, T., Bolnick, D.I.

Rana juliani. Vocalization. (2017)

Mesoamerican Herpetology. 4(1). pp. 170.

- *French, C.M.*, Kilborn, V., Jäger, K.L.

Diadophis punctatus regalis (Regal Ringneck Snake). DIET. (2017)

Herpetological Review. 48(2). pp. 448.

- *French, C.M.*

SDMtoolbox 2.0: the next generation python-based GIS toolkit for landscape genetic, biogeographic and species distribution model analyses. (2017)

PeerJ. 5:e4095.

- Brown, J.L., Bennett, J., *French, C.M.*

Presentations and Posters

Pairing species distribution models with spatially explicit coalescent simulations to understand demographic responses to past climate change

Evolution *2023*

- *French, C.M.*, Hickerson, M.J., Carnaval, A.C.
- Oral presentation

Estimating spatial demographic patterns in a dynamic environment with ecological niche models and genome-wide data

Ecological and Evolutionary Genomics Gordon Conference *2023*

- *French, C.M.*, Hickerson, M.J., Carnaval, A.C.
- Poster presentation

The response of an Atlantic Forest leaf frog to anthropogenic climate change

Student Conference on Conservation Science *2023*

- Flores, L.C., *French, C.M.*
- Poster presentation
- Liliana Flores is my undergraduate mentee who presented the poster

Estimating spatial demographic patterns in a dynamic environment with species distribution models and genome-wide data

Evolution *2022*

- *French, C.M.*, Hickerson, M.J., Carnaval, A.C.
- Oral presentation
- Presidential symposium: Species distributions and coexistence: the intersection of evolution and ecology.

Determinants of the global distribution of genetic diversity in terrestrial insects

New York Species Distribution Modeling Discussion Group *2021*

- *French, C.M.*
- Invited presentation

Comparative phylogeography of the Brazilian Atlantic Forest leaf litter lizards (genus Enyalius)

World Congress of Herpetology *2020*

- *French, C.M.*, Damasceno, R., Rodrigues, M., Carnaval, A.C., Hickerson, M.J.
- Oral presentation

Using genetics to understand species responses to climate change

New York City College of Technology- Systematics Undergraduate Course *2020*

- *French, C.M.*
- Invited presentation

A dynamic history in the Tropical Andes: phylogeography and systematics of the Ameerega petersi group (Dendrobatidae)

Evolution *2019*

- *French, C.M.*, and Brown, J.L.
- Oral presentation

Predicting global insect genetic diversity

Evolution *2019*

- *French, C.M.*, Bertola, L., Hickerson, M.J.
- Poster presentation

Climate-driven diversification in a clade of Peruvian poison frogs

Evolution *2017*

- *French, C.M.*, Brown, J.L.
- Oral presentation

Climate fluctuation as a driver of diversification in a clade of Peruvian poison frogs

Joint Meeting of Ichthyologists and Herpetologists *2017*

- *French, C.M.*, Brown, J.L.
- Oral presentation

Morphological divergence among multiple Notropis oxyrhynchus populations

American Fisheries Society *2015*

- *French, C.M.*
- Poster presentation

Morphological assessment of hybridization between two ranid species, Lithobates juliani and L. vaillanti

Society for the Study of Amphibians and Reptiles *2015*

- *French, C.M.*
- Oral presentation

Peer Review

Journal of Biogeography, Biotropica, Environmental Biology of Fishes, Molecular Ecology, Global Ecology and Biogeography

Teaching

Ecology and Evolution *New York, NY*

CCNY Biology Department *2022*

- TA, BIO 228
- Led and prepared labs.

Reproducible Research *New York, NY*

City College of New York *2022*

- Co-organizer and panelist. 1.5 hour panel on techniques for reproducible research.
- Hosted for members of the Ecology, Evolution, and Behavior PhD program.

R for Reproducible Scientific Analysis *New York, NY*

Columbia University *2021*

- Invited workshop.
- Half-day online workshop as part of the Pre-Statistics Course Bootcamp.
- Facilitated by Software Carpentries.

Introduction to Text Analysis in R *New York, NY*

CUNY Graduate Center *2021*

- 1.5 hour online workshop for CUNY Graduate Center faculty and students.
- Hosted on rstudio.cloud
- Given as part of the GC Digital Fellows.

Digital Research Institute *New York, NY*

CUNY Graduate Center *2020 - 2021*

- Five day series of workshops introducing CUNY faculty and students to digital tools for research.
- Two sessions- one in January 2020 and one in February 2021.
- Led the R track.

Digital Humanities Research Institute *New York, NY*

CUNY Graduate Center/Online *2021*

- Led a workshop on Git and Github for a national cohort of students and faculty.

Reproducible Data Analysis in R *New York, NY*

CUNY Graduate Center *2020*

- 2.5 hour workshop on using RMarkdown and github for reproducible data analysis.
- Hosted within the workr R package as an interactive tutorial.
- Given as part of the GC Digital Fellows

Data Visualization in R *New York, NY*

CUNY Graduate Center *2020*

- 2.5 hour workshop on using ggplot2 for data visualization.
- Hosted within the workr R package as an interactive tutorial.
- Given as part of the GC Digital Fellows

Exploring population structure in R with adegenet and sNMF *Global/Online*

City University of New York *2020*

- 1.5 hour online workshop given to an international group of evolutionary biology faculty and graduate students as part of the four day Bioinformatics Bootcamp for Ecology and Evolution.

Introduction to R and RStudio *New York, NY*

CUNY Graduate Center *2020*

- Two hour online workshop for CUNY Graduate Center faculty and students.
- Given as part of the GC Digital Fellows.

Introduction to population structure inference in R *Carbondale, IL*

SIUC Zoology Department *2019*

- Invited workshop.
- Two hour workshop for Zoology graduate and undergraduate students.

Introductory R and RStudio *New York, NY*

CUNY Graduate Center *2019*

- Invited workshop.
- 1.5 hour workshop for graduate students in the Quantitative Zoogeography graduate course.

Bioinformatic processing of ultraconserved elements for phylogenetic analysis *Carbondale, IL*

SIUC Zoology Department *2019*

- Two hour workshop to introduce graduate students to a bioinformatic pipeline.

Data Wrangling in R *New York, NY*

CUNY Graduate Center *2019*

- 2.5 hour workshop on using the tidyverse for data manipulation.
- Hosted within the workr R package as an interactive tutorial.
- Given as part of the GC Digital Fellows

BioSkills *Carbondale, IL*

SIUC Biology Department *2017 - 2018*

- TA, BIO 212
- Co-developed material for new writing and discussion-based course section.
- Concurrently ran ecology and developmental biology sections.

Introduction to Evolution and Ecology Lab *Carbondale, IL*

SIUC Biology Department *2017*

- TA, BIO 212
- Led and prepared labs.

Vertebrate Anatomy Lab *Carbondale, IL*

SIUC Zoology Department *2017*

- TA, ZOOL 418
- Led and prepared labs.
- Advised undergraduate lab assistant.

Reptile and amphibian survey and capture techniques *Carbondale, IL*

SIUC Zoology Department *2017*

- Invited lecture, Curation of Collections (PLB 401).
- One hour lecture on best practices for herpetological surveys.

Appropriate techniques for identifying and handling reptiles and amphibians in the field. *Carbondale, IL*

SIUC Zoology Department *2017*

- Invited lecture, SIUC Wildlife Techniques (ZOOL 469).
- One hour lecture and field demonstration on best practices for herpetological surveys.

Introductory Biology for Non-Majors Lab *Carbondale, IL*

SIUC Zoology Department *2016*

- TA, ZOOL 115
- Led and prepared labs.

Instructor *Austin, TX*

Camp Einstein Afterschool STEM Program *2016*

- Summer afterschool program for early elementary school students.

Biostatistics

Austin, TX

UT Biology Department *2014 - 2015*

- Undergraduate TA
- Assisted graduate TA with leading and grading R programming labs, and facilitating course discussion.

Awards and Honors

Doctoral Student Research Grant

City University of New York *2023*

- $1450

Graduate Center Digital Fellowship

City University of New York *2019 - 2021*

- $56250
- $28,125/year

Helen and Frederick Gaige Fund

American Society of Ichthyology and Herpetology *2020*

- $900

Provost's Pre-Dissertation Research Fellowship for the Sciences

City University of New York *2020*

- $5000

Student Scholarship

World Congress of Herpetology *2020*

- $940

Graduate Research Excellence Grant RC Lewontin Early Award

Society for the Study of Evolution *2019*

- $2300

Charles & Florence Foote Teaching Award in Zoology

Southern Illinois University at Carbondale *2018*

- $750

Biodiversity Under Environmental Change Seed Grant

City College of New York *2018*

- $2500

Digital Initiatives Training Grant

City University of New York *2018*

- $500

Zoology Graduate Student Association Travel Award

Southern Illinois University at Carbondale *2017*

- $100

Cooperative Wildlife Research Lab Featured Graduate Student

Southern Illinois University at Carbondale *2017*

Undergraduate Research Fellowship

University of Texas at Austin *2015*

- $1000

University Honors

University of Texas at Austin *2014*

General Education Scholarship

University of North Texas *2011 - 2012*

- $6000

Dean's List
University of North Texas *2012*

Outreach

Predicting global insect diversity *City College of New York*
Science Day *2019*
- Invited oral presentation

Peru: where plan C comes first *SIU Carbondale*
Herpetology Club *2017*
- Oral presentation

There and back again: divergence and convergence in poison frogs *SIU Carbondale*
Darwin Week *2017*
- Invited oral presentation

Sightseers slither into southern Illinois for Snake Road
Daily Egyptian *2017*
- Interview

Frog diversity and evolution
Kealing Middle School Magnet Program Zoology Club *2016*
- Invited lecture

Frogs: weird wonders of the natural world
Lamar Fine Arts Academy Middle School *2016*
- Invited lecture

Professional Development

Deep Learning in Pytorch Crash Course *New York, NY*
NYC Data Science Academy *2023*
- Workshop

The Carpentries Collaborative Lesson Development Training program *Remote*
Software Carpentries *2023*
- Certified as a Software Carpentries Lesson Developer

Insights from Macro-Ecology and Macro-Evolution for Biodiversity Assessment
Schoodic Institute, Maine *2022*
- Workshop

Applied Machine Learning *Austin, TX*
R Studio Conference *2019*
- Workshop

Machine Learning for Scientists
City University of New York *2019*
- Course

The Fundamentals of UX Research
City University of New York *2019*
- Workshop

Genome Assembly and Annotation
American Museum of Natural History *2019*
- Workshop

SLiM 5-day workshop *New York, NY*
CUNY Biology Department *2019*
- Co-organized five full-day workshop on SLiM population genetic simulation program

Analysis of Rad-Sequence Data (RadCamp)

Universidade de São Paulo

Instituto de Biociências *2018*

- Workshop

Biostatistics

City University of New York *2018*

- Course

Introduction to GIS

Southern Illinois University at Carbondale *2017*

- Course

Quantitative Zoogeography

Southern Illinois University at Carbondale *2017*

- Course

Intermediate Computational Statistics

Southern Illinois University at Carbondale *2016*

- Course

Biostatistics

University of Texas at Austin *2014*

- Course

Intro to NGS Bioinformatics

University of Texas at Austin *2013*

- Workshop

Mentorship

Liliana C. Flores

City College of New York *2022 - 2023*

- Conducted independent research project on modeling the distribution of a Brazilian leaf frog species
- Poster presentation of work at the Student Conference on Conservation Science

Undergraduate Diversity at Evolution

Evolution Meeting *2019*

- Mentored two undergraduates attending their first conference

Krista Jäger

Dalhousie University *2016 - 2017*

- Assisted honors thesis investigating ranid frog population genetics
- Co-authored natural history note on *Rana juliani* vocalization

Michael Deutsche

Southern Illinois University at Carbondale *2017*

- Undergraduate assistant, learning lab techniques and experimental design in anuran morphometrics
- Senior project on poison frog call variation
- Co-authored resulting publication

Writing

Sonification for Data Communication

New York, NY

Blog post *2021*

- Post introducing the concept of sonification, its uses, and its benefits.

RStudio Cloud for Education

New York, NY

Blog post *2020*

- Post outlining the advantages of using the RStudio Cloud system for teaching.

Funding sources for undergraduate research in ecology and evolution *New York, NY*

Blog post *2020*

- Post highlighting funding resources for undergraduate research

PDIG Training Grant Spotlight: Connor French *New York, NY*

Blog post *2019*

- Overview of a project I used the Provost's Digital Innovation Grant to prepare for.

Interactively explore geographic data in R using leaflet *New York, NY*

Blog post *2019*

- Walk through of creating an interactive map in R.

Technical Skills

Frameworks	Software
R, Python, SQL, QGIS, ArcGIS, Unix shell, Microsoft Office, High-Performance Computing	Git, tidyverse, tidymodels, Quarto, Shiny, msprime, sklearn, SLiM, conda, snakemake, common bioinformatics tools

Affiliations

Society for the Study of Evolution (2017 - 2024)

American Genetics Association (2022 - 2024)