

Curriculum Vitae  
**SARA RUANE**

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Field Museum of Natural History  
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### **Positions Held**

**Associate Curator of Herpetology**, 2021–present: Negaunee Integrative Research Center, Field Museum of Natural History, Chicago, IL (Assistant Curator c. 2021–2024)

**Director of Core Laboratories**, 2024–present: Negaunee Integrative Research Center, Field Museum of Natural History, Chicago, IL

### **Honorifics Held**

**Board of Directors**, 2024–present: Association Vahatra, Antananarivo, Madagascar

**Graduate Program Member (Associate Faculty)**, 2024–present, Department of Biology, Loyola University Chicago, Chicago, IL

**Women’s Board Curator of Herpetology**, 2022–present: Negaunee Integrative Research Center, Field Museum of Natural History, Chicago, IL

**Graduate Program Member (Trainer)**, 2022–present, Committee on Evolutionary Biology, University of Chicago, Chicago, IL

**Graduate Program Member (Co-Advisor)**, 2017–present, Rutgers University-Newark/NJIT, Biology Program, Newark, NJ

**Graduate Program Member (Co-Advisor)**, 2017–present, Rutgers University-New Brunswick, Ecology and Evolution Program, New Brunswick, NJ

**Research Associate**, 2022–present: Louisiana Museum of Natural Sciences, Louisiana State University, Baton Rouge, LA

**Research Associate**, 2017–present: Department of Herpetology, The American Museum of Natural History, New York, NY

### **Previous Positions**

**Assistant Professor**, 2017–2021: School of Science and Arts (Biology: Ecology & Evolution), Rutgers University-Newark, Newark, NJ

**Postdoctoral Research Fellow & Lab Manager**, 2016: Department of Herpetology, Museum of Natural Science, Louisiana State University, Baton Rouge, LA

**Postdoctoral Research Fellow** (*Gerstner Scholarship & NSF-funded*), 2013–2016: Department of Herpetology, American Museum of Natural History, New York, NY

**Adjunct Faculty**, 2012: College of Staten Island, Staten Island, NY

### **Education**

**Ph.D.**, 2013: City University of New York Graduate Center, New York, NY  
Program: Biology (Ecology, Evolutionary Biology, and Behavior)

**M.S.**, 2007: University of Central Arkansas, Conway, AR  
Program: Biology

**B.S.**, 2004: University of Massachusetts-Amherst, Amherst, MA  
Major: Biology

## Peer-reviewed Publications

53. Bernstein, J.M., ..., **S. Ruane**. 2026. Diversification and colonization in the Indo-Australian Archipelago: Genomic insights from colubrid snakes. In Press, *Journal of Biogeography*.
52. Huang, T., I. Overcast, A.L. Kuhn, P.J. Morin, & **S. Ruane**. 2026. Small snakes, big cities: population genetics of urban Dekay's brown snake (*Storeria dekayi*) in New Jersey. *Journal of Heredity*, p.esaf042.
51. Patron-Rivero, C., C. Yañez-Arenas, **S. Ruane**, X. Chiappa-Carrara, & O.R. Rojas-Soto, O.R., 2026. A comprehensive morphological database of hognose Porthidium pitvipers (Viperidae: Crotalinae). *Database* p.baaf085.
50. Rakotoarimalala, F., A.L. Kuhn, A.P. Raselimanana, J.A. Tahinarivony, & **S. Ruane**. 2025. Habitat use, selection, and population density of chameleon communities (*Calumma* spp.) in the fragmented Central Highlands forests of Madagascar. *BMC Ecology and Evolution* 25, 137.
49. **Ruane, S.** Rakotoarimalala, F., A.L. Kuhn, & A.P. Raselimanana. 2025. *Brygophis coulangesi* (Domergue, 1988) (Serpentes: Pseudoxyrhophiidae) and its taxonomic relationship with respect to *Compsophis* (Günther, 1882). *Zootaxa* 5729: 469–476.
48. Bessesen, B., ..., **S. Ruane\***, & J. H. Nankivell\*. The Systematics of the Golfo Dulce yellow sea snake (Elapidae: *Hydrophis platurus xanthos*): morphological vs molecular perspectives. *Zoological Journal of the Linnean Society* p.zlaf131. \*co-senior authors
47. Patron-Rivero, P., C. Yañez-Arenas, X. Chiappa-Carrara, O. Rojas-Soto, **S. Ruane** & L. Guevara. 2025. Ecological and biogeographic drivers of speciation in Neotropical hognose pit vipers, *Porthidium* (Squamata, Viperidae), *Zoologischer Anzeiger* 318: 65–76.
46. Huang, T., P.J. Morin, & **S. Ruane**. 2025. Environmental factors affecting movement patterns of small urban-adapted snakes. *Journal of Herpetology*, 59: 1–9.
45. Huang, T., P.J. Morin, & **S. Ruane**. 2025. Interpopulation morphological differences and sexual dimorphism of Dekay's brownsnake (*Storeria dekayi*) along a rural–urban gradient. *PeerJ* 13 e19439.
44. Rakotoarimalala, F., A.L. Kuhn, A.P. Raselimanana, & **S. Ruane**. 2025. Herpetofaunal diversity in northern Madagascar: The Andrafiarana-Andavakoera Protected Area. *Malagasy Nature* Vol. 19.
43. Huang, T., **S. Ruane**, & P.J. Morin. 2025. Population Estimation of an urban-adapted snake. *Ichthyology & Herpetology* 113: 256–252.
42. Huang, T., P.J. Morin, & **S. Ruane**. 2025. The impact of anthropogenic disturbance and climate change on the distribution of Dekay's brown snake (*Storeria dekayi*). *Biological Journal of the Linnean Society* blae053.
41. Travers, S.L., ..., **S. Ruane**. 2024. VenomCap: An exon-capture probe set for the targeted sequencing of snake venom genes. *Molecular Ecology Resources* 24: e14020.
40. Bernstein, J.M., ... **S. Ruane**,..., & M.A. Cuesta. 2024. Using mangrove and field-based observation data to determine microhabitat preference: A case study in Bockadams (Serpentes: Homalopsidae: *Cerberus*). *Royal Society Open Publishing* 11: 240483.
39. Bernstein, J.M., E.N. Rittmeyer, & **S. Ruane**. 2024. Preliminary observances of skeletal UV fluorescence in fresh and preserved snakes. *Reptiles & Amphibians* e21588–e21588.
38. Roberts, J.R., J.M. Bernstein, C.C. Austin, T. Hains, J. Mata, S. Pirro, & **S. Ruane**. 2024. Whole snake genomes from eighteen families of snakes (Serpentes: Caenophidia) and their applications to systematics. *Journal of Heredity* p.esae026.

37. Das, S.,... **S. Ruane**,..., Merilä. 2024. Phylogenomics of *Psammodynastes* and *Buhome* (Elapoidea: Serpentes), with the description of a new Asian snake family. *Scientific Reports* 14.1: 9489.
36. Roberts, J.R.,..., **S. Ruane**, C.C. Austin. 2024. Systematics and biogeography of a Sunda-Papuan snake lineage (Natricidae: *Tropidonophis* Jan, 1863). *Zoological Journal of the Linnean Society* p.zlae039.
35. Bernstein, J.M., ..., **S. Ruane**. 2024. Integrative methods reveal multiple drivers of diversification in rice paddy snakes. *Scientific Reports* 14.1: 4727.
34. Bernstein, J.M., ..., **S. Ruane**. 2023. Phylogenomics using fresh and formalin specimens resolves the systematics of Old World Mud Snakes (Serpentes: Homalopsidae) and expands biogeographic inference. *Bulletin of the Society of Systematic Biologists* 2: 1–24.
33. Burbrink, F.T., **S. Ruane**, N. Rabibisoa, A. P. Raselimanana, C.J. Raxworthy, & A.L. Kuhn. 2023. Speciation rates are unrelated to the formation of population structure in Malagasy gemsnakes. *Ecology & Evolution* 13: <https://doi.org/10.1002/ece3.10344>.
32. Cordero, G.A., K. Birk, **S. Ruane**, S.A. Dinkelacker, & F.J. Janzen, F.J. 2023. Effects of the egg incubation environment on turtle carapace development. *Evolution and Development* 25:153–169.
31. Bernstein, J.M. & **S. Ruane**. 2022. Maximizing molecular data from low-quality fluid-preserved specimens in natural history collections. *Frontiers in Ecology and Evolution* (invited for special issue, Recent Advances in Museomics: Revolutionizing Biodiversity Research) <https://doi.org/10.3389/fevo.2022.893088>
30. Bernstein, J.M., ..., **S. Ruane**. 2022. Undescribed diversity in a widespread, common group of Asian mudsnakes (Serpentes: Homalopsidae: *Hypsiscopus*). *Ichthyology & Herpetology* 110:561–574.
29. Burbrink, F.T., B.I. Crother, C.M. Murray, B.T. Smith, **S. Ruane**, E.A. Myers, & R.A. Pyron. 2022. Empirical and philosophical problems with the subspecies rank. *Ecology and Evolution* 12:e9069.
28. Burbrink, F.T., J.M. Bernstein, A.L. Kuhn, A.L., M. Gehara, & **S. Ruane**. 2022. Ecological divergence and the history of gene flow in the Nearctic milksnakes (*Lampropeltis triangulum* complex). *Systematic Biology* 71: 839–858.
27. Sena, A.T. III, & **S. Ruane**. 2022. Concepts and contentions of coral snake resemblance: Batesian mimicry and its alternatives. *Biological Journal of the Linnean Society* 135: 631–644.
26. Kuhn, A.L., M. Gehara, S.M. Andrianarimalala, N. Rabibisoa, B. Randriamahatantsoa, C.J. Raxworthy, **S. Ruane**, & F.T. Burbrink. 2022. Drivers of unique and asynchronous population dynamics in Malagasy herpetofauna. *Journal of Biogeography* 49: 600–616.
25. Rittmeyer, E.N., A. Elmonier\*, & **S. Ruane**. 2021. Phylogeography of the Rough Green Snake, *Opheodrys aestivus* (Squamata: Colubridae) based on multilocus Sanger sequence and genomic ddRADseq data. *Journal of Herpetology* 53: 342–354. \*undergraduate LSAMP advisee.
24. Burbrink, F.T. & **S. Ruane**. 2021. Contemporary philosophy and methods for evidence-based species delimitations. *Ichthyology and Herpetology* 109: 874–894.
23. **Ruane, S.** 2021. New data from old specimens. *Ichthyology & Herpetology* 109:392–396.
22. Durso, A.M....**S. Ruane**...2021. Citizen science and online data: Opportunities and challenges for snake ecology and action against snakebite. *Toxicon* (invited special issue) X: 100071.
21. Bernstein, J.M., J.C. Murphy, H.K. Voris, R.M. Brown, & **S. Ruane**. 2021. Phylogenetics of Mud Snakes (Squamata: Serpentes: Homalopsidae): A paradox of both undescribed diversity and taxonomic inflation. *Molecular Phylogenetics and Evolution* 160: 107109.
20. Burbrink, F.T., ...**S. Ruane**, ... & H. Zaher. 2020. Interrogating the genomes of Squamata (lizards, snakes, and amphisbaenians) with novel machine–learning techniques shows no support for deeper traditional morphological relationships. *Systematic Biology* 69:502–520.

19. Goodman, A.M.,... & **S. Ruane**. 2019. New Record and Range Expansion of *Masticophis lateralis* Hallowell, 1853 (Squamata, Colubridae) into Western Baja California Sur, Mexico. *Check List Journal* 15(2): 345–348.
18. Burbrink, F.T., **S. Ruane**, .... & C.J. Raxworthy. 2019. The origins and diversification of the exceptionally rich gemsnakes in Madagascar. *Systematic Biology* 68:913–936.
17. **Ruane, S.**, S.J. Richards, J.D. McVay, B. Tjaturadi, K. Krey, & C.C. Austin. 2018. Cryptic and non-cryptic diversity in New Guinea ground snakes of the genus *Stegonotus* Duméril, Bibron and Duméril, 1854: A description of four new species (Squamata: Colubridae). *Journal of Natural History* 52: 13–16, 917–944 (Invited for Special Issue: Integrative Taxonomy of Reptiles).
16. Harrington, S.M., J.M. deHaan\*, L. Shapiro\*, & **S. Ruane**. 2018. Habits and characteristics of arboreal snakes worldwide: arboreality constrains body size and has complex effects on diversification. *Biological Journal of the Linnean Society* 125:61–71. \*Highschool & Undergraduate w/S. Ruane.
15. Veerappan, D., **S. Ruane**, D. & Gower. 2018. A new subfamily of fossorial colubroid snakes from the Western Ghats of peninsular India. *Journal of Natural History* 52:2919–2934.
14. **Ruane, S.**, E.A. Myers, K. Lo\*, S. Yuen\*, Welt, R.S., M. Juman\*, I. Futterman\*, R.A. Nussbaum, G. Schneider, F.T. Burbrink, & C.J. Raxworthy. 2018. Unrecognized species diversity and new insights into color pattern polymorphism within the widespread Malagasy snake *Mimophis* (Serpentes: Lamprophiidae). *Systematics and Biodiversity* 16: 229–244. \*High school students mentored by S. Ruane.
13. **Ruane, S.**, & C.C. Austin. 2017. Phylogenomics using formalin-fixed and 100+ year old intractable natural history specimens. *Molecular Ecology Resources* 17: 1003–1008.
12. Burbrink, F.T., Y. Chan, E.A. Myers, **S. Ruane**, B.T. Smith, & M.J. Hickerson. 2016. Asynchronous demographic responses to Eastern Nearctic Pleistocene climate changes in vertebrate communities. *Ecology Letters* 9: 1457–1467.
11. **Ruane, S.**, F.T. Burbrink, B. Randriamahtantsoa, & C.J. Raxworthy. 2016. The cat-eyed snakes of Madagascar: Phylogeny and description of a new species of *Madagascarophis* (Serpentes: Lamprophiidae) from the tsingy of Ankarana. *Copeia* 104: 712–721.
10. **Ruane, S.**, C.J. Raxworthy, A. Lemmon, E. Moriarty-Lemmon, F.T. Burbrink. 2015. Comparing species-tree estimation with large anchored phylogenomic and small Sanger-sequenced molecular datasets: An empirical study on Malagasy pseudoxyrhophiine snakes. *BMC Evolutionary Biology* 15:221. doi:10.1186/s12862-015-0503-1.
9. **Ruane, S.**, O. Torres-Carvajal, & F.T. Burbrink. 2015. Independent demographic responses to climate change among temperate and tropical milksnakes (Colubridae: Genus *Lampropeltis*). *PLoS ONE* 10(6): e0128543. doi:10.1371/journal.pone.0128543.
8. **Ruane, S.** 2015. Using geometric morphometrics for integrative taxonomy: An examination of head shapes of milksnakes (genus *Lampropeltis*). *Zoological Journal of the Linnean Society* 174: 394–413.
7. \***Ruane, S.**, R. Bryson, Jr., R.A. Pyron, & F.T. Burbrink. 2014. Coalescent species delimitation in Milksnakes (genus *Lampropeltis*) and impacts on phylogenetic comparative analyses. *Systematic Biology* 63: 231–250. \*Journal cover image designed by S. Ruane.
6. Myers, E.A., J.A. Rodriguez-Robles, D.F. DeNardo, R.E. Staub, A. Stropoli\*, **S. Ruane**, & F.T. Burbrink. 2013. Multilocus phylogeographic assessment of the California Mountain Kingsnake (*Lampropeltis zonata*) suggests alternative patterns of diversification for the California Floristic Province. *Molecular Ecology* 22: 5418–5429. \*High school student.

5. Myers, E.A., **S. Ruane**, K. Knight, J.L. Knight, & J.M. Ray. 2013. Distribution Record of *Tantilla alticola* Boulenger, 1903 (Squamata: Colubridae) in Coclé Province, Republic of Panama. *Check List* 9: 151–152.
4. Burbrink, F.T., **S. Ruane**, & R.A. Pyron. 2012. When are adaptive radiations replicated in areas? Ecological opportunity and unexceptional diversification in West Indian Dipsadine snakes (Colubridae: Alsophiini). *Journal of Biogeography* 39: 465–475.
3. Burbrink, F.T., H. Yao\*, M. Ingrasci, R. Bryson, T.J. Guiher, & **S. Ruane**. 2011. Speciation at the Mogollon Rim in the Arizona Mountain Kingsnake (*Lampropeltis pyromelana*). *Molecular Phylogenetics and Evolution* 60:445–454. \*High school student mentored by S. Ruane.
2. **Ruane, S.**, R.A. Pyron, & F.T. Burbrink. 2011. Phylogenetic relationships of the Cretaceous frog *Beelzebufo* from Madagascar and the placement of fossil constraints based on temporal and phylogenetic evidence. *Journal of Evolutionary Biology* 24: 274–285.
1. **Ruane, S.**, S.A. Dinkelacker, & J.B. Iverson. 2008. Demographic and reproductive traits of Blanding's turtles, *Emydoidea blandingii*, at the Western edge of the species' range. *Copeia* 4:771–779.

### **Book Chapters & Other Publications**

- Nachman M.W.,...,**S.Ruane**,... & R.M. Zink. 2023. Specimen collection is essential for modern science. *PLoS Biol* 21(11): e3002318. <https://doi.org/10.1371/journal.pbio.3002318>
- Cadle, J.E., M.D. Scherz, **S. Ruane**, F.T. Burbrink, C.J. Raxworthy, & F. Glaw. 2022. Pseudoxyrhophiidae and Psammophiidae: Colubroid Snakes, Bibilava. *In* The Natural History of Madagascar. Ed. S. Goodman, Princeton University Press.
- Ruane, S.** & J.W. Streicher. 2022. Using comparative genomics to resolve the origin and early evolution of snakes. *In* The Origins of Snakes. Systematics Association Special Volume, Cambridge University Press, Cambridge, England.
- Persons, T.B., T.B. Cotton, D.J. Leavitt, **S. Ruane**, & E.M. Nowak. 2020. *Lampropeltis triangulum*, North American Milksnake. *In* The Snakes of Arizona, pp. 227–239. Eds. Holycross, A.T. & J.C. Mitchell, Eco Press, Rodeo, NM.
- Sites, Jr., J.W., E.A. Myers, & **S. Ruane**. 2020. Species delimitation and integrative taxonomy: Challenges and opportunities in snake systematics. *In* Advances in Coralsnake Biology, pp. 1–36. Eds. Silva, Jr., N.J., S.D. Aird, & A.L.C. Prudente. Eagle Mountain Publishing, UT, USA.
- Bonett, R.M.,..., **S. Ruane**,...& J.J. Moriarty. 2017. *Scientific and standard English names of amphibians and reptiles of North America north of Mexico, with comments regarding confidence in our understanding* (8th ed); Herpetological Circular no. 43. Topeka, KS: Society for the Study of Amphibians and Reptiles.
- Streicher, J. & **S. Ruane**. 2018. Phylogenomics of snakes. *eLS (Wiley Encyclopedia of Life Sciences)* <http://www.els.net> [doi: 10.1002/9780470015902.a0027476].

### **Book Reviews**

- Ruane, S.** 2021. Book review: “Texas Snakes: A Field Guide” (Revised Edition, 2020). *Ichthyology & Herpetology* 109:330–331.

### **Grants & Awards**

- 2026 Friends of Nachusa Grasslands Research Grant: “Survey of Herpetofauna at Nachusa Grasslands using Adapted-Hunt Drift Fence Technique (AHDriFT) Camera Trap Arrays” (\$10,252 year 1)
- 2026 Negaunee Foundation Fund Award: “”Interdisciplinary projects in the XCT Lab (Core Labs)” (\$75,000)

- 2026 (continuation) Private donor funds to S. Ruane: “Reptile research fund for Madagascar” (\$24,000/year, starting in 2023, \$96,000 to date)
- 2026 Negaunee Foundation Seed Fund Award: “Whole genome sequencing of file snakes (*Acrochordus granulatus*) to understand genomic mechanisms of adaptation to aquatic environments” (\$30,000)
- 2026 Grainger Bioinformatics Center Award: “Genomic mechanisms of infrared detection in snakes” (\$7800)
- 2024 Indiana Division of Fish and Wildlife Award: “Survey for Butler’s gartersnakes (*Thamnophis butleri*) and Kirtland’s snakes (*Clonophis kirtlandii*) in northern Indiana” (\$122,609 total award)
- 2023 Field Dreams funding from the Field Museum Women’s Board “Solving the mystery of the yellow sea snakes: Applying trailblazing molecular techniques to determine the true birthplace of rare 50-year-old sea snake specimens” (\$4925)
- 2023 “Joseph Laszlo Memorial Award” from the International Herpetological Symposium, granted to the speaker who has “demonstrated that his or her work represents new and exciting views and advances in herpetology” Annual Conference, Schaumberg, IL
- 2022 Negaunee Integrative Research Center Field Work Funds “Genetic structure & spatio-temporal distribution of chameleon populations (Chamaeleonidae: *Calumma* spp.) in the highlands of Madagascar” (\$5000)
- 2022 Walder Foundation Biota Award: “Understanding Chicagoland’s Changing Conservation Landscape: Resurveys for Reptiles and Amphibians of Will County, IL” (\$299,932 to PI Ruane)
- 2020 National Science Foundation Award (DEB 2224119) Systematics and Biodiversity ARTS: “Identifying diversity, describing species, and revising taxonomy of New Guinean snakes” (\$206,000 to PI Ruane)
- 2019 Rutgers Research Council Award (\$4600)
- 2014 Gerstner Postdoctoral Fellowship, American Museum of Natural History
- 2012 Best student presentation in systematics, Society for the Study of Reptiles and Amphibians Henri Seibert Award, World Congress of Herpetology; see the talk here: <https://www.youtube.com/watch?v=eAvqXtubiFc&feature=youtu.be>
- 2011 National Science Foundation Macroevolutionary Methods in R Workshop, Santa Barbara, CA (funded to attend)
- 2010 Best student presentation, Herpetologists’ League Award, Joint Meeting of Ichthyologists and Herpetologists, Providence, Road Island
- 2009 Graduate Women in Science, Vessa Notchev Fellowship (\$3000)
- 2009 Theodore Roosevelt Memorial Fund, American Museum of Natural History (\$1500)
- 2008 The Explorer’s Club Grant (\$1000)
- 2007–2009 Science Fellowship, CUNY Graduate Center
- 2007 Travel Award, University of Central Arkansas (\$800)
- 2006 Summer Research Fellowship, University of Central Arkansas (\$2000)
- 2006 Nebraska Herpetological Society grant (\$500)
- 2006 University of Central Arkansas internal grant (\$1200)

### **Formal Teaching Experience**

**Rutgers University-Newark, *Instructor***, 2017—2021

Tropical Field Biology (Undergraduate field, laboratory, and writing intensive course)

*Baja California Sur* 2019, *Guyana* 2020  
Systematics (Graduate Lecture Course)  
Evolution (Undergraduate Lecture Course)

**Islands & Seas, Summer Institute Herpetology Instructor**, 2016, 2017 (ongoing)  
Surf and Science Field Course, Baja California Sur

**College of Staten Island, Instructor**, 2007–2012  
Evolution Lecture  
General Biology Laboratory  
Introductory Biology (majors) Lecture  
Principles of Biology (non-majors) Lecture  
Vertebrate Zoology Lecture & Laboratory

**University of Central Arkansas, Instructor**, 2005–2007  
Principles of Biology Laboratory

**University of Massachusetts, Instructor**, 2003  
Introductory Biology Laboratory

### **Current Program Advisees**

Tianqi Huang, Postdoctoral Research Scientist, Field Museum; Spring 2025

Madelynn Sinclair, Doctoral Student, University of Chicago; Fall 2024

Nicolas Sekit, Master's Student Loyola University (co-advised); Spring 2024

Patrycja Aksamit, Master's Student DePaul University; Fall 2023

Fandresena Rakotoarimalala, Doctoral Student, University of Antananarivo (co-advised); Spring 2022

Anthony Sena, Doctoral Student, NJIT/Rutgers University; Fall 2019

### **Past Program Advisees**

Tianqi Huang, Doctoral Student, Rutgers University (co-advised); 2018—graduated 2025

Jeffrey Frederick, Postdoctoral Researcher, Field Museum; 2022–2024

Justin Bernstein, Doctoral Student, Rutgers University; 2017—graduated 2022

Scott Travers, INSPIRE Postdoctoral Researcher, Rutgers University; 2019–2022

Anthony Sena, Master's Student Rutgers University; 2017—graduated 2019

Ahmed Almonier, Undergraduate LSAMP Ruane Lab participant, Rutgers University; 2018–2019

Eric Rittmeyer, Postdoctoral Researcher, Rutgers University; 2017–2019

Marvella Nelson, Undergraduate LSAMP Ruane Lab participant, Rutgers University; 2017

### **Dissertation Committee Member**

Joseph Cannizzaro, Doctoral Student, University of Illinois; Fall 2025

Priscila Carvalho, Doctoral Student, Universidade Federal de Mato Grosso do Sul; graduated 2022

Arianna Kuhn, Doctoral Student, CUNY; graduated 2021

Jackson Roberts, Doctoral Student, Louisiana State University; graduated 2023

### **International Visiting Scholars & Scientists Sponsor**

2025 Fernando Alda, Senior Scientist, Instituto de Investigación en Recursos Cinegéticos, Spain; awarded  
Field Museum Bass Senior Scientist Visiting Fellowship

2023 Fandresena Rakotoarimalala, Doctoral Student, University of Antananarivo, Madagascar; awarded Field Museum African Scholars Fellowship

2023 Carlos Patron-Rivero, Doctoral Student, Universidad Nacional Autónoma de México, Mexico

2023 Diego Santana, Professor, Universidade Federal de Mato Grosso do Sul, Brazil; awarded Field Museum Bass Senior Scientist Visiting Fellowship

### **Select Education, Outreach, & Popular Media**

2025–2026 Scientific content advisor for Field Museum exhibition *Reptiles Alive!* including numerous newspaper, tv, and blog interviews, plenary talks, and panel discussions related to exhibit

2024 Featured scientist for “Snake Expert Rates 9 Snake Attacks In Movies, How Real Is It? Business Insider, available here: <https://www.youtube.com/watch?v=Fkzp1UGzZdM>

2023 Organizer/host/sponsor, “RAD-Camp 2023-Chicago”, workshop for RAD-seq data analysis, Field Museum, Chicago, IL, info here: <https://radcamp.github.io/Chicago2023/>

2023 Co-chair/organizer: FMNH Women in Science panel discussion and student mixer “Conservation and Ecology under a Changing Planet”, Field Museum, Chicago, IL

2023 Interview by Stefano Esposito/expedition leader “Chonkosaurus, where are you? The hunt for Chicago’s celebrity snapping turtle”, Chicago Sun Times, Chicago, IL, available here: <https://chicago.suntimes.com/2023/5/18/23728541/chonkosaurus-snapping-turtle-chicago-river-search-field-museum-hunt-canoe-kayak>

2023 Field Forward Symposium, Table host for Malagasy reptiles, Field Museum, Chicago, IL

2023 Scientist/instructor, Bronx Renaissance Youth Center Annual Bioblitz, Shandaken, NY

2023 Field Museum Members Night scientist participant, Field Museum, Chicago, IL

2023 Participating Scientist for the Women’s Board Visit to the Orr Academy High School, Chicago, IL

2023 Panel member for Walder Foundation Biota Awards, Chicago, IL

2022 Science Insider Feature: “Why 11 Million Embalmed Specimens Are Stored in the Field Museum's Basement”, available here: <https://www.youtube.com/watch?v=JwQAAyctdFY>

2022 “Snakes!” Presentation at Science Night at The Hideout, Chicago, IL

2022 “What’s So Great about Snakes?” Presentation for B. Levy Kipper’s Sunday Salon, Chicago, IL

2022 Field Museum Members Night scientist participant, Field Museum, Chicago, IL

2022 “Snake Diversity”, presentation for The Nourishment Project, Chicago, IL

2022 “Career Awareness: Herpetologist”, presentation for Mason Elementary School, Chicago, IL

2022 “Why Study Snakes?” Members Event, Field Museum, Chicago, IL

2021 Field Museum Learning Connection YouTube Channel, “Snake Studies: Scientist Chat with Sara Ruane”, available here: <https://www.youtube.com/watch?v=rTHfOrFotaU>

2021 Field Museum Facebook Live “Meet a Museum Insider Studying Snakes and other Herps”, available here: <https://www.facebook.com/fieldmuseum/videos/studying-snakes-and-other-herps/607800400584346/>

2021 “All Things Considered”, National Public Radio interview, commentary on recently published paper, available here: <https://www.npr.org/2021/10/14/1046140256/the-dinosaur-extinction-led-to-lots-of-new-mammals-and-birds-and-snakes-to-eat-t>

2021 Interview Atlas Obscura article by Jessica Hester “How Could a Crocodile Spend Years Cinched By a Tire?”, available here: <https://www.atlasobscura.com/articles/crocodile-trapped-in-trash>

2021 Colombia University, high school conservation biology summer school, guest speaker (virtual)

- 2020 Save the Snakes, “Women Champions of Snakebite”, Global Campaign participant
- 2019 Panel member, “Minutes to Die” snakebite global pandemic movie screening, Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ
- 2019 Interview for Atlas Obscura article by Sabrina Imbler “How a Fossilized Snake With Legs Fits Into the Lineage of Lizards”, available here:  
<https://www.atlasobscura.com/articles/difference-between-legless-lizard-snake>
- 2019 Consultant “Do you really know axolotls?”, children’s book on axolotl salamanders, Scholastic Publishing, New York, NY
- 2019 Guest speaker “Getting Curious with Jonathan Van Ness” podcast, available here:  
<https://www.earwolf.com/person/dr-sara-ruane/>
- 2019 Scientist for “Drunk Science” comedic science show at Littlefield Market, Brooklyn, NY
- 2019 Scientist on panel for “Publish or Perish” commentary on movie “Ice Age” at Caveat, New York, NY
- 2018 Scientist host for “Snake it 'til you make it” Skype a Scientist Pregame Your Brain at Caveat, New York, NY
- 2018 Expert Scientist on “You’re the Expert”, podcast and live show, Brooklyn, NY, available here:  
<https://soundcloud.com/youre-the-expert/ghost-snakes>
- 2017 Featured video interview on bioGraphic, “Bipes Aren’t Coming for You”, available here:  
<http://www.biographic.com/posts/sto/bipes-arent-coming-for-you>
- 2016 TED x LSU and Science Café Present “Curiosity, confidence and persistence with Dr. Sara Ruane” speaking engagement for LSU undergraduates, Baton Rouge, LA
- 2016 The Pursuit of Science LSU College of Science Blog guest post:  
<http://lsuscienceblog.squarespace.com/blog/2016/8/31/lolo-the-ghost-snake-lsu-researcher-sara-ruane-helps-discover-a-new-species>
- 2016 Coverage of newly described snake species, New York Times, available here:  
[http://www.nytimes.com/2016/09/13/science/new-ghost-snake-madagascar.html?\\_r=1](http://www.nytimes.com/2016/09/13/science/new-ghost-snake-madagascar.html?_r=1)
- 2015 Featured for American Museum of Natural History Shelf Life Episode 12 “Six Extinctions in Six Minutes”, available here: <https://www.youtube.com/watch?v=AZuwOgcS1Wo>
- 2015 Consultant and featured photos “Fly Guy Presents: Snakes” children’s book, Scholastic Publishing, New York, NY
- 2015 Classroom talk to Elk Lake School 6<sup>th</sup> grade, Dimock, PA
- 2015 American Museum of Natural History Family Party Benefit: Science Center for Kids, table host for herpetology, New York, NY
- 2015 Guest speaker at BridgeUP: STEM scholars, program for high school girls learning computational sciences, American Museum of Natural History, New York, NY
- 2015 Featured mentor American Museum of Natural History Science Research Mentoring Program, available here <https://youtu.be/Rk3JBFs1arQ?si=GljKNhkfKvVpqRs6>
- 2015 Scientist at American Museum of Natural History “Speed Science” event, coverage by the Wall Street Journal available here:  
<http://www.wsj.com/articles/science-meets-speed-dating-1434569915>
- 2015 Classroom talk to Brooklyn Technical High School biology class, Brooklyn, NY
- 2015 Member of the professional American Museum of Natural History scientist “lifeline” team for AMNH Life at the Limits Trivia, New York, NY

- 2015 Member of professional American Museum of Natural History scientist team, NPR Science Fridays Trivia, Brooklyn, NY
- 2015 Speaker on global snake diversity at “Pint of Science”, Ryan’s Daughter, New York, NY
- 2015 Organizer and presenter for “How to Become a More Productive Author: A Presentation for Graduate Student and Postdoctoral Fellows” at AMNH, New York, NY
- 2014 American Museum of Natural History scientist for “Meet the Scientist in the Discovery Room”, educational program for children, New York, NY
- 2014 Interview for BBC article by Nadia Drake, “What were the legendary man-eating snakes of Borneo?”
- 2014 American Museum of Natural History Family Party Benefit: Science Center for Kids, table host for herpetology, New York, NY
- 2014 American Museum of Natural History Expedition Report: Christopher Raxworthy and Sara Ruane in Madagascar; video, podcast, and interview in Rotunda Magazine, available here: <http://www.amnh.org/explore/news-blogs/podcasts/expedition-report-christopher-raxworthy-and-sara-ruane-in-madagascar>
- 2014 Classroom talk to Brooklyn Technical High School biology class, Brooklyn, NY
- 2013 Classroom talk to William Cullen Bryant High School biology class, Queens, NY
- 2009 Snakes Alive 2! New Scientist 204 (2730), 69-69
- 2008 Snakes Alive! New Scientist 199 (2666), 81-81
- 2008 Classroom talk to International Preschools, New York, NY

### **Select Professional Presentations**

- 2026 (**Invited Speaker**): Using natural history collections for modern research. University of Wisconsin-Madison, Madison, WI.
- 2025 The use of single specimens for species descriptions and general considerations. Joint Meeting of Ichthyologists and Herpetologists, St. Paul, MN.
- 2024 (**Invited Speaker/Plenary Speaker**): The usage and importance of natural history collections for modern research. Governor’s State University IRCDA Retreat, Field Museum, Chicago, IL.
- 2024 (**Invited Speaker/Discussion Leader**): Concepts and contentions in coral snake mimicry. University of Idaho Herpetology Course, Pullman, ID (virtual).
- 2023 (**Invited Speaker**): “Best” usage of specimens for squamate systematics. Camp ’23: Celebrating the 100th anniversary of the publication of Charles L. *Camp’s Classification of Lizards*, American Museum of Natural History, New York, NY.
- 2023 (**Invited Speaker**): The importance of natural history collections for modern herpetological research. International Herpetological Symposium, Schaumburg, IL.
- 2023 (**Keynote Speaker**): Study snakes?! What would you want to do that for? Darwin Day presentation, Prairie State Humanists, Naperville, IL.
- 2023 Maximizing genetic data from fluid-preserved specimens. Society for Systematic Biology, UNAM, Mexico City, Mexico.
- 2022 (**Invited Speaker**): Why natural history collections matter. Utah Tech University, St. George, UT.
- 2022 (**Keynote Speaker**): Why study snakes? Girl Power in STEM, University of Central Arkansas, Conway, AR.
- 2022 (**Invited Speaker**): Study snakes?! What would you want to do that for? Louisiana State University, Baton Rouge, LA.

- 2022 **(Invited Speaker)**: Understanding snake systematics and diversity using modern approaches. Loyola University, Chicago, IL.
- 2022 **(Invited Speaker)**: Study snakes?! What would you want to do that for? University of Chicago, Chicago, IL.
- 2021 **(Invited Speaker/Discussion Leader)**: Museum specimens for modern herpetological systematics. University of Idaho Herpetology Course, Pullman, ID (virtual).
- 2020 **(Invited Speaker)**: Herpetological diversity and informing evolutionary biology: Why study snakes? Field Museum, Chicago, IL.
- 2019 **(Invited Speaker)**: Snakes: The ideal taxon for studying evolutionary biology! Stony Brook University Dept. of Ecology and Evolution, Stony Brook, NY.
- 2019 **(Invited Speaker)**: Old museum specimens for modern molecular systematics. The Expanding Role of Natural History Collections Symposium hosted by the Joint Meeting of Ichthyologists and Herpetologists, Snowbird, Utah.
- 2019 **(Invited Speaker)**: The perfect organism for studying evolution? Snakes! Chicago Herpetological Society, Chicago, IL.
- 2019 **(Invited Speaker)**: Conflicting histories: Assessing phylogenetic signal across the genomes of snakes. A Contribution to the Origin and Early Evolution of Snakes Symposium hosted by the Linnean Society of London, London, England.
- 2019 **(Invited Speaker)**: Global snake diversity: Describing it, understanding it, and loving it! The George Washington University, Washington, D.C.
- 2018 **(Invited Speaker)**: Understanding snake phylogenetics in the age of phylogenomics. Fordham University, Bronx, NY.
- 2018 **(Invited Speaker)**: Next gen, old gen: Using large and small datasets for snake systematics. CUNY City College, New York, NY.
- 2018 **(Invited Speaker)**: Snake phylogenetics in the age of phylogenomics. California Academy of Sciences, San Francisco, CA.
- 2017 **(Invited Speaker)**: Understanding and describing snake diversity in the era of phylogenomics. Rutgers University, New Brunswick, NJ.
- 2017 **(Invited Speaker)**: Snake phylogenetics in the age of phylogenomics. Yale University, New Haven, CT.
- 2017 **(Invited Speaker)**: The Ghost Snake of Madagascar. 24<sup>TH</sup> Annual Ned Smith Nature and Art Festival, Millersburg, PA.
- 2017 Museum specimens in the age of phylogenomics. Joint Meeting of Ichthyologists and Herpetologists, Austin, TX.
- 2017 **(Invited Speaker)**: The superfluity of morphology for species delimitation in the molecular age. Society of Systematic Biologist's Symposium: A debate of conceptual issues surrounding genetic-based species delimitation in the genomic era, Evolution 2017, Portland, OR.
- 2016 **(Invited Speaker)**: Snake systematics in the age of phylogenomics. Southeastern Louisiana University, Hammond, LA.
- 2016 **(Invited Speaker)**: Malagasy snake systematics using traditional and next generation sequencing datasets for species-tree estimation. University of Mississippi, Oxford, MS.
- 2015 **(Invited Speaker)**: Herpetofaunal diversity and informing evolutionary biology. Wagner College, Staten Island, NY.
- 2015 **(Invited Speaker)**: Describing and understanding Malagasy snake diversity. Natural History of Madagascar Symposium, Bruce Museum, Greenwich, CT.

- 2015 Estimating a Malagasy snake phylogeny: A comparison of small and large molecular datasets. Joint Meeting of Ichthyologists and Herpetologists, Reno, NV.
- 2015 (**Invited Speaker**): Gene-tree/species-tree discordance in empirical datasets. Society of Systematic Biologist's Symposium: Breaking Barriers, Evolution 2015, Gauruja, Brazil.
- 2014 (**Invited Speaker**): Understanding Malagasy snake systematics: A comparison of traditional and next-generation sequencing datasets for species-tree estimation. Richard Gilder Graduate School Comparative Biology Seminars, American Museum of Natural History, New York, NY.
- 2014 (**Invited Speaker**): Speciation of milksnakes (*Lampropeltis triangulum*). University of Central London, London, England.
- 2013 Phylogenetics of the Malagasy pseudoxyrhophiine radiation. Joint Meeting of Ichthyologists and Herpetologists, Albuquerque, NM.
- 2012 (**Awarded best student presentation, SSAR Systematics**): Speciation of milksnakes (*Lampropeltis triangulum*). World Congress of Herpetology, Vancouver, Canada.
- 2011 Gene-tree/species-tree discordance in *Lampropeltis*. Evolution 2011 Meeting, Norman, Oklahoma.
- 2010 (**Invited Speaker**): The placement of fossil constraints based on temporal and phylogenetic evidence. Universidade Federal do Rio Grande do Norte, Natal, Brazil.
- 2010 (**Awarded best presentation, Herpetologists' League**): Gene-tree/species-tree discordance in *Lampropeltis*. Joint Meeting of Ichthyologists and Herpetologists, Providence, RI.
- 2010 (**Invited Speaker**): Quantifying global and local effects of calibration induced error in molecular divergence time estimation. North Eastern Symposium on Evolutionary Divergence Time, Rutgers University, New Brunswick, NJ.
- 2009 Quantifying global and local effects of calibration-induced error in molecular divergence time estimation. Evolution 2009 Meeting, Moscow, ID.
- 2008 Phylogeographic and demographic history of the milksnake, *Lampropeltis triangulum*: the impact of glacial cycles on a pan-tropical and temperate vertebrate. Joint Meeting of Ichthyologists and Herpetologists, Montréal, Quebec, Canada.
- 2007 The effects of roadways on Blanding's and common snapping turtles in Nebraska. Arkansas Academy of Sciences 91<sup>th</sup> Annual Meeting. Arkansas Tech University, Russellville, AR.
- 2007 The effects of roadways on the nest-site selection of a semi-aquatic turtle species. Partners in Amphibian and Reptile Conservation Meeting, Chattanooga, TN.
- 2006 The impacts of roadways on the demography of aquatic turtles. Arkansas Academy of Sciences 90<sup>th</sup> Annual Meeting. Lyons College, Batesville, AR.

### **Professional Service**

- American Museum of Natural History: Theodore Roosevelt Memorial Grant Reviewer 2014, 2015
- American Society of Ichthyologists & Herpetologists: Board of Governors 2016–2020, 2021–2024; Fitch Award Committee 2019–2022; Gaige Fund Award Committee 2018–2020 (Chair 2020); Co-chair of Education & Human Resources Committee 2017–2022; Meeting Sponsorship Committee 2023–present.
- Copeia* Editorial Board Member 2018–present
- Check List Journal*: Receiving Editor 2010–2012
- Graduate Women in Science: Fellowships Committee 2017

Herpetologists' League: Executive Council 2020—2024; Symposium Committee 2013—2020 (Chair of Symposium Committee 2018—2020); Judge for Student Presentations 2014; Williams Award Grant reviewer 2017—2019

*Journal of Heredity* (Journal): Associate Editor 2021—present

New Jersey 4H Club, Herpetology monthly blog writer 2018—2021

National Science Foundation: DEB DDIG panel member 2015; DEB ad hoc reviewer 2015, 2019, 2020; DEB panel member 2022

Peer Reviewer: *Axios*, *Annals of the Brazilian Academy of Sciences*, *Animal Conservation*, *Biological Journal of the Linnean Society*, *Contemporary Herpetology*, *Evolution*, *Heredity*, *Herpetologica*, *Journal of Biogeography*, *Journal of Heredity*, *Journal of Herpetology*, *Kansas Journal of Herpetology*, *Journal of Zoological Systematics and Evolutionary Research*, *Molecular Ecology*, *Molecular Ecology Resources*, *Molecular Phylogenetics and Evolution*, *Museum of Comparative Zoology*, *Nature Communications*, *Nature*, *Nature Scientific Reports*, *Palaeontologia Electronica*, *PeerJ*, *Plos ONE*, *Proceedings of the Royal Society B*, *SSAR Herpetology Circular*, *Systematic Biology*, *Zoological Journal of the Linnean Society*, *Zoomorphology*

Save the Snakes Conservation Organization: Advisory Board Member 2018—present; grant reviewer 2018—present

Society of Systematic Biologists: Mini-ARTS Grant Reviewer 2016, 2017, 2020

Society for the Study of Amphibians & Reptiles: Annual Live Auction Auctioneer 2013—present; Grants-in-Herpetology Grant Reviewer 2015; Seibert Systematics Award Judge 2017; Committee for Standard English and Scientific Names list of North American Snakes, 2016—present; Committee for Metallinou Postdoctoral Travel Award 2017—2023

*Systematic Biology* (Journal): Associate Editor 2019—2024

### **Field Museum Service**

Women in Science Committee Co-chair, 2023—present

Women's Board Science Advisor, 2023—present

Scientific Advisory Council alternate member, 2023—present

Scholarship Committee member, 2021—2024

Institutional Animal Care and Use Committee member, 2021—present

Armour Watson Seminar Series Committee member, 2021—present

Pritzker Lab Committee member, 2021—present

### **Field Museum Exhibitions Content Advisor**

“Reptiles Alive!”; opened June 2025

“The Changing Face of Science: Sara Ruane”; opened April 2025

“After the Age of the Dinosaurs”; opened August 2025

### **Professional Affiliations**

American Society of Ichthyologists & Herpetologists (Lifetime Member)

The Herpetologists' League

Society for the Study of Evolution (Lifetime Member)

Society of Systematic Biologists

Society for the Study of Amphibians & Reptiles

### **Additional Herpetological Research Experience**

**Tall Timbers Research Station**, Tallahassee, FL, 2004

*Field Technician, Ecology of Rat Snakes and Corn Snakes*

Supervisor: Kimberly Sash

Included handling and identifying snakes (including venomous species), lizards, and frogs, tracking snakes in the field using radio-telemetry, using GPS, setting funnel and box traps, removing snakes from traps, recording data on captured snakes (sex, morphometrics), taking tissue samples, and injecting PITs.

**University of Massachusetts**, Amherst, MA, 2000—2004

*Herpetological Collection Assistant*

Supervisor: Dr. Alan M. Richmond

Performed day-to-day maintenance for a live collection of ~130 snakes, turtles, lizards and amphibians. Assisted at educational presentations to students.