

JESSICA L. TINGLE

POSTDOCTORAL RESEARCHER

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EDUCATION

- Ph.D. University of California, Riverside** 9/2021
- Evolution, Ecology, and Organismal Biology
 - Advisor: Theodore Garland, Jr.
- B.S. Cornell University** 5/2012
- Major in Biological Sciences, minor in Latin American Studies
 - Cum Laude and Distinction in Research

PEER-REVIEWED PUBLICATIONS

- Tingle, J.L.**, D.J. Jurestovsky, and H.C. Astley. 2023. The relative contributions of multiarticular snake muscles to movement in different planes. *Journal of Morphology* 284(6): e21591. DOI: 10.1002/jmor.21591.
- Jurestovsky, D.J., **J.L. Tingle**, and H.C. Astley. 2022. Corn snakes show consistent sarcomere length ranges across muscle groups and ontogeny. *Integrative Organismal Biology* 4(1): obac040. DOI: 10.1093/iob/obac040.
- Tingle, J.L.**, B.M. Sherman, and T. Garland, Jr. 2022. Scaling and relations of morphology with locomotor kinematics in the sidewinder rattlesnake *Crotalus cerastes*. *Journal of Experimental Biology* 225(7): jeb243817. DOI: 10.1242/jeb.243817.
- Rieser, J.M., T-D. Li, **J.L. Tingle**, D.I. Goldman, and J.R. Mendelson III. 2021. Functional consequences of convergently-evolved microscopic skin features on snake locomotion. *Proceedings of the National Academy of Sciences* 118(6): e2018264118. DOI: 10.1073/pnas.2018264118.
- Tingle, J.L.** and T. Garland, Jr. 2021. Morphological evolution in relationship to sidewinding, arboreality, and precipitation in snakes of the family Viperidae. *Biological Journal of the Linnean Society* 132(2):328-345. DOI: 10.1093/biolinnean/blaa208.
- Tingle, J.L.** 2020. Facultatively sidewinding snakes and the origins of locomotor specialization. *Integrative and Comparative Biology* 60(1):202-214. DOI: 10.1093/icb/icaa011.
- Tingle, J.L.**, G.E.A. Gartner, B.C. Jayne, and T. Garland, Jr. 2017. Ecological and phylogenetic variability in the in the spinalis muscle of snakes. *Journal of Evolutionary Biology* 30(11):2031-2043. DOI: 10.1111/jeb.13173.

Tingle, J.L. and T. Slimani. 2017. Snake charming in Morocco. *Journal of North African Studies* 22(4):560-577. DOI 10.1080/13629387.2017.1296357.

Tingle, J.L., S.C. Cook-Patton, and A.A. Agrawal. 2016. Spillover of a biological control agent (*Chrysolina quadrigemina*) onto native St. Johnswort (*Hypericum punctatum*). *PeerJ* 4:e1886; DOI 10.7717/peerj.1886.

Tingle, J.L. 2012. Field observations on the behavioral ecology of the Madagascan leaf-nosed snake, *Langaha madagascariensis*. *Herpetological Conservation and Biology* 7:442-448.

INVITED ARTICLES

Deitloff, J.M., B.E. Espinoza, and **J.L. Tingle**. 2023. The History of SSAR's Diversity, Equity, and Inclusion Committee. *Herpetological Review* 54(1):52-57.

Tingle, J.L. 2020. Cultivating inclusive communities in taxon-focused societies. *Herpetological Review* 51(3):663-665.

Tingle, J.L. 2013. Developing an undergraduate herpetology club at Cornell University. *Herpetological Review* 44(2):185-187.

FELLOWSHIPS

Postdoctoral Research Fellowship in Biology , \$240,000 National Science Foundation	2023–2026
Dissertation Year Fellowship , \$7,200 University of California, Riverside	2019
Graduate Research Fellowship , \$138,000 National Science Foundation	2015–2020
Chancellor's Distinguished Fellowship , \$25,000 University of California, Riverside	2015–2016
Fulbright Scholarship (Morocco) , \$15,220 U.S. Department of State	2014
Critical Language Enhancement Award (Arabic) , \$7,600 U.S. Department of State	2013–2014
Hughes Scholars Program , \$2,000 Howard Hughes Medical Institute	2010

GRANTS

NSF Division of Environmental Biology Award #2016872, \$46,586 Diversity, Equity, and Inclusion in Herpetology and Ichthyology <i>* Co-wrote the proposal, but listed as Senior Personnel because NSF rules prohibit graduate students from serving as co-PIs</i>	2020
Symposium sponsorship grants, \$5,500 total Joint Meeting of Ichthyologists and Herpetologists (JMIH) societies <ul style="list-style-type: none">• Society for the Study of Reptiles and Amphibians, \$2,000• Herpetologists League, \$2,000• American Society of Ichthyologists and Herpetologists, \$1,500	2019
Spieth Memorial Graduate Award in Biology, \$1,000 UC Riverside Department of Evolution, Ecology, and Organismal Biology	2019
Graduate Dean's Dissertation Research Grant, \$800 UC Riverside Graduate Division	2019
E.E. Williams Research Grant, \$1,000 Herpetologists' League	2018
Vaughan H. Shoemaker Graduate Fellowship, \$750 UC Riverside Department of Evolution, Ecology, and Organismal Biology	2017
Fellowship for Graduate Student Travel, \$1,400 Society for Integrative and Comparative Biology	2017

HONORS AND AWARDS

Outstanding Teaching Assistant Award UC Riverside Graduate Division	2019/2020 2017/2018
James and Margaret Lesley Annual Prize, \$675 UC Riverside College of Natural and Agricultural Sciences	1/2020
First place, Grad Slam Finalists at UCR Palm Desert, \$500 UC Riverside Palm Desert campus	4/2019
Second runner up, Grad Slam Finals, \$1,000 UC Riverside Graduate Division	3/2019
James Merrill and Adeline Wallace Annual Prize, \$2,000 UC Riverside College of Natural and Agricultural Sciences	2/2019

First place, Science Slam, \$500 UC Riverside College of Natural and Agricultural Sciences	11/2018
First runner up, Graduate Research Award, \$250 Herpetologists' League	7/2018
First place (tie), GradFest Student Presentation Competition, \$50 UC Riverside Department of Evolution, Ecology, and Organismal Biology	3/2018
First place, Student Research Presentation Competition, \$75 Southwest Herp Fest (regional conference)	2/2017

INVITED TALKS

Syracuse University: *How snakes might achieve extreme functional diversity in a superficially simple body plan.* (April 2023)

Loma Linda University: *Evolution and biomechanics of sidewinding locomotion in snakes.* (February 2022)

California Academy of Sciences: *Unravelling the sidewinder's secrets through biomechanics and evolution.* (March 2021)

Symposium, Society for Integrative and Comparative Biology: *Prevalence of facultative sidewinding locomotion in non-specialist snake species.* (January 2020)

SELECTED CONFERENCE PRESENTATIONS

Oral presentation at the Society for Integrative and Comparative Biology annual meeting:
Contributions of multiarticular snake muscles to movement in different planes. (January 2023; Austin, Texas)

Oral presentation at the Joint Meeting of Ichthyologists and Herpetologists: *Stereotype threat as a barrier to belonging, and what we can do about it.* (July 2022; Spokane, Washington)

Oral presentation at the Society for Integrative and Comparative Biology annual meeting:
*Relating morphology, kinematics, and performance in the sidewinder rattlesnake (*Crotalus cerastes*).* (January 2022; Phoenix, Arizona)

Oral presentation at the Society for Integrative and Comparative Biology annual meeting:
Morphological evolution in relation to sidewinding, arboreality, and precipitation in snakes of the family Viperidae. (January 2021; virtual conference)

Poster presentation at the Joint Meeting of Ichthyologists and Herpetologists: *What determines vertebral count in snakes?* (July 2019; Snowbird, Utah)

Oral presentation at the Society for Integrative and Comparative Biology annual meeting:
Body size and shape influence kinematics of sidewinding locomotion in the rattlesnake Crotalus cerastes (January 2019; Tampa, Florida)

Oral presentation at the Joint Meeting of Ichthyologists and Herpetologists: *Scaling of morphology and locomotion in the sidewinder rattlesnake, Crotalus cerastes* (July 2018; Rochester, New York)

Oral presentation at the Society for Integrative and Comparative Biology annual meeting:
Effects of body size and morphology on sidewinding kinematics in the rattlesnake Crotalus cerastes (January 2018; San Francisco, California)

Oral presentation at the Joint Meeting of Ichthyologists and Herpetologists: *Morphological correlates of locomotor specialization in vipers* (July 2017; Austin, Texas)

Poster presentation at the Society for Integrative and Comparative Biology annual meeting:
Morphological correlates of sidewinding locomotion in vipers (January 2017; New Orleans, Louisiana; featured in the blog *Better Posters*)

Oral presentation at the Society for the Study of Amphibians and Reptiles meeting: *Moroccan snake charming* (July 2015; Lawrence, Kansas)

Oral presentation at the Moroccan Studies Symposium: *Relating human activities and environmental science: A case study of snake charming in Morocco* (May 2014; Rabat, Morocco)

Oral presentation at the Fulbright MENA Regional Seminar: *The relationship between people and reptiles in Morocco* (February 2014; Amman, Jordan)

TEACHING AND MENTORSHIP

TEACHING EXPERIENCE

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|---|----------------------------|
| Guest Lecturer for Integrated Bioscience Seminar
University of Akron | spring 2022 |
| <ul style="list-style-type: none">● Graduate seminar● Lecture: "Single-species and comparative approaches to specialized snake locomotion" | |
| Facilitator for the GradEdge/JumpStart NSF GRFP Workshop Series
University of California, Riverside; Graduate Writing Center | summer 2020
summer 2021 |
| <ul style="list-style-type: none">● Non-credit eight-week fellowship writing program for incoming graduate students; two sections per week | |

TA for BIOL 005B: Introduction to Organismal Biology University of California, Riverside	spring 2020
<ul style="list-style-type: none"> • Two labs per week, online due to COVID-19 	
TA for BIOL 161A & 161B: Functional Anatomy of the Vertebrates University of California, Riverside	winter 2020 fall 2018 fall 2017
<ul style="list-style-type: none"> • Four discussion sections per week 	
TA for BIOL 163: Evolutionary Ecology of the Terrestrial Vertebrates University of California, Riverside	fall 2019
<ul style="list-style-type: none"> • One lab section and one field trip per week, including two overnight field trips 	
Guest Seminar Facilitator for EEOB 210: Organismal Biology University of California, Riverside	spring 2018
<ul style="list-style-type: none"> • Graduate seminar; facilitated two separate discussions 	
Guest Lecturer for BIOL 005B: Introduction to Organismal Biology University of California, Riverside	spring 2017
<ul style="list-style-type: none"> • Lecture: "Muscles and Movement Part 1: Animal Locomotion" 	

TRAINING/CERTIFICATIONS

Including Indigenous Peoples in Research and Pedagogy Society for Integrative and Comparative Biology	11/2022
Certified Master Tutor, Level III College Reading & Learning Association International Tutor Training Program	2020
University Teaching Certificate Program University of California, Riverside	1–6/2019
Graduate Student Diversity Certificate Program University of California, Riverside	3–6/2018
BIOL 301: Teaching Biology at the College Level University of California, Riverside	9–12/2017
Teaching Development Day University of California, Riverside	5/2017
ENTOM 3350: Naturalist Outreach Practicum Cornell University	1–5/2012

MENTORSHIP AND SUPPORT ROLES

Panelist, Pre-College Scholars Program: “Inclusive Herpetology” Society for the Study of Amphibians and Reptiles	3/2023
Mentor for graduate students University of Akron	10/2021– present
STEM Coordinator, Graduate Student Mentorship Program University of California, Riverside	8/2020– 6/2021
<ul style="list-style-type: none">• Designed mentorship programming to enhance first year graduate student retention and success efforts across departments	
Mentor, EEB Mentor Match Administered by Samniqueka Halsey and Terry McGlynn	2020; 2022
Mentor to undergraduate and high school research assistants University of California, Riverside	1/2017– 5/2021
Consultant, Graduate Writing Center University of California, Riverside	9/2019– 9/2020
Presenter, Graduate Writing Center Workshop: “Applying for Fellowships” University of California, Riverside	5/2020
Invited speaker, Physics Organization for Womxn and the Under-Represented UC Riverside Physics Department	3/2020
<ul style="list-style-type: none">• Talk: “Broadening participation in STEM by reducing stereotype threat”	
Presenter, Graduate Writing Center Workshop: “Writing Concisely” University of California, Riverside	1/2020
Mentor, SICB Broadening Participation Mentorship Program Society for Integrative and Comparative Biology annual meeting	2020; 2021; 2023
Mentor, JMIH Mentorship Program Joint Meeting of Ichthyologists and Herpetologists	7/2019; 7/2022
Invited speaker, Graduate Student Diversity Certificate Program University of California, Riverside	5/2019
<ul style="list-style-type: none">• Talk: “Mitigating stereotype threat through growth mindsets”	
Presenter, Teaching Development Day University of California, Riverside	5/2019
<ul style="list-style-type: none">• Talk: “Mitigating stereotype threat through growth mindsets”	
Panelist, STEM TA Roundtable University of California, Riverside	4/2019

Panelist, Grant Writing Workshop for EEOB 265: “Lunch Bunch” 4/2016
University of California, Riverside

Science Surprises Part-Time Educator 2–6/2013
Ithaca Science Center

- Provided an after-school enrichment program to K-6 children by preparing and delivering inquiry-based science activities at schools

PROFESSIONAL LEADERSHIP AND SERVICE

SSAR Representative for the AIBS IDEA Conference 10/2022
American Institute of Biological Sciences *three virtual sessions*
Society for the Study of Amphibians and Reptiles
Topic: Enabling Scientific Societies to Support Inclusive, Diverse, Equitable, and Accepting (IDEA) Scientific Environments

Co-Chair, Diversity, Equity, and Inclusion Committee 6/2020–present
Society for the Study of Amphibians and Reptiles

Symposium organizer: 7/2022
“Diversity, Equity, and Inclusion in Ichthyology and Herpetology” *postponed from 2020 due to COVID-19*
Joint Meeting of Ichthyologists and Herpetologists

Website Coordinator 7/2019–present
Society for the Study of Amphibians and Reptiles

Member, Long-Range Planning Committee 3/2019–present
Society for the Study of Amphibians and Reptiles

Judge, Grad Slam 2/2022
University of California, Riverside

Chair, Student Participation Committee 7/2018–7/2021
Society for the Study of Amphibians and Reptiles

Graduate student representative, faculty hiring committee 7/2017–2/2018
University of California, Riverside

Peer reviewer

- Behavioral Ecology
- Bioinspiration & Biomimetics
- BMC Evolutionary Biology
- Communications Biology
- Herpetological Review
- Integrative and Comparative Biology
- International Journal of Zoology
- Journal of Herpetology
- Journal of Zoology
- Scientific Reports

PROFESSIONAL DEVELOPMENT

- Evolutionary Quantitative Genetics Workshop** June 3–9, 2018
Friday Harbor Labs
- Organized by Stevan Arnold and Joe Felsenstein
- Workshop: Natural History and Morphology – Engines of Inspiration** July 15, 2017
Joint Meeting of Ichthyologists and Herpetologists
- Organized by Stephanie Crofts and Adam Summers
- Short course: Analysis of Diversification Rates from Phylogenies** June 22–23, 2017
Oregon State University
- Organized by Dan Rabosky and Brian Sidlauskas

EDUCATIONAL OUTREACH

- Biomechanics Day: Animals in Motion** 3/2023
Zoo Atlanta
- Led an activity involving programmable snakelike-robots to give kids (and some parents) a hands-on experience with limbless locomotion
- Snake Robot Outreach** 2/2023
Akron Public Schools East Community Learning Center
- Helped guide 7th-graders through an activity involving programmable snakelike-robots to demonstrate principles of limbless locomotion
- Science Ambassador Program** 5/2021
University of California, Riverside
- Presented research and discussed career trajectory at a meeting of UCR’s undergraduate Science Ambassador Program
- Success in Science and Technology: Engagement with Role Models (SISTERS)** 4/2021
University of California, Riverside
- Facilitated a meeting for the SISTERS program, which serves middle-school girls who will be first-gen high-school or college graduates
- STEAM Storytime at the Riverside Public Library** 2/2020
5/2018
- Taught pre-K through elementary school students about reptiles with a story, live animals, and hands-on activities
- UC Riverside science event** 6/2019
- Hosted a booth to teach ~90 second-graders about snake biology
- SICB “What is a scientist?” outreach event:** 1/2019
Stewart Magnet Middle School, Tampa, FL

<ul style="list-style-type: none"> Familiarized students in two classes with general goals and specific activities of scientists, then led a miniature research project 	
Herpetology Hotline Responder	9/2017–
<ul style="list-style-type: none"> Answered 155 questions via the Society for the Study of Amphibians and Reptiles online hotline, which is accessible to the general public 	8/2019
Animal adaptations presentation	5/2018
Columbia Elementary School, Perris, CA	3/2017
<ul style="list-style-type: none"> Taught elementary school students (eleven classes total on three visits) about animal adaptations using hand-on activities 	12/2016
Reptiles outreach at after-school science club	3/2018
REACH Leadership Academy, Riverside, CA	11/2016
<ul style="list-style-type: none"> Used live animals to instill knowledge of and appreciation for reptiles in elementary school students 	
Science Olympiad mentorship	12/2017–
On-campus at the University of California, Riverside	2/2018
<ul style="list-style-type: none"> Led workshops to prepare high school students for the Science Olympiad competition 	
Upward Bound Math and Science Program	4/2017
Vista del Lago High School, Moreno Valley, CA	
<ul style="list-style-type: none"> Discussed academic opportunities and science careers with low-income high school students 	
UC Riverside Science Day	2/2017
<ul style="list-style-type: none"> Led activities for ~200 fourth-grade students to learn about animal diversity and adaptation 	
Video: “Reptiles: Diversity, Feeding, Defense”	2012
<ul style="list-style-type: none"> Developed and presented educational video with a fellow student as part of the Cornell University Naturalist Outreach Program http://www.cornell.edu/video/naturalist-outreach-reptiles---diversity-feeding--defense 	
Cornell Herpetological Society	3/2009–
<ul style="list-style-type: none"> Conducted dozens of educational outreach events for undergraduates, elementary school students, and community members in and around Ithaca, NY 	5/2012