

Angela Chuang, Ph.D.

Dept. Psychology & Ecology and Evolutionary Biology
569 Dabney Hall
University of Tennessee
Knoxville, TN 37996-1610

Email: angelachuang@utk.edu
Phone: 510-366-0595

EDUCATION

University of Tennessee, Knoxville

Doctor of Philosophy, 2013 – 2019

Dissertation Title: *Living life on the edge: The role of invasion processes in shaping personalities in a non-native spider species*

Department: Ecology & Evolutionary Biology

Committee: Susan Riechert (chair), Daniel Simberloff, James Fordyce, Todd Freeberg

University of California, Berkeley

Bachelor of Science, 2008 – 2012

Concentration: Entomology, Major: Molecular Environmental Biology

Department: Environmental Science, Policy, & Management

Minor: Forestry and Natural Resources

PROFESSIONAL POSITIONS

2019 – 20 **Full-Time Lecturer**, Psychology Department, University of Tennessee

2013 – 19 **Graduate Research Fellow**, Susan Riechert Lab, Ecology and Evolutionary Biology Department, *University of Tennessee*

2013 **Research Assistant**, I-Min Tso Behavioral Ecology Lab, Tunghai University, *Taiwan*

2013 **Field Assistant**, Caribbean Arachnids Expedition 2013, *Lesser Antilles, Caribbean*

2012 **Field Assistant**, Steven Beissinger Lab, Hato Masaguaral Research Station, *Venezuela*

2012 **Field Assistant**, Caribbean Arachnids Expedition 2012, *Dominican Republic*

2012 **Preparation Laboratory Assistant**, Museum of Vertebrate Zoology, UC Berkeley

2011 **Student Researcher**, UC Berkeley Field Station, *Mo'orea, French Polynesia*

2011 **Research Assistant**, Robert Dudley Biomechanics Lab, UC Berkeley

2010 **Research Assistant**, Miguel Altieri Agroecology Lab, UC Berkeley

PEER-REVIEWED PUBLICATIONS

(130 total citations, * Joint first authorship, ‡ In Review)

- ‡ Chuang, A. & Riechert, S.E. Personality shifts are inconsistent across two rapid range expansions of a non-native spider, *Animal Behaviour*. ANBEH-D-20-00421
8. Frank, D., Simberloff, D., Bush, J., **Chuang, A.**, & Leppanen, C. (2019). Logical fallacies and reasonable debates in invasion biology: A response to Guiaşu and Tindale, *Biology and Philosophy*, 34–49. <https://doi.org/10.1007/s10539-019-9704-0>
7. **Chuang, A.**, Gates, M.W., Grinsted, L., Askew, R., & Leppanen, C. (2019). Two hymenopteran egg

sac associates of the tent-web orbweaver spider, *Cyrtophora citricola* (Araneae: Araneidae), *Zookeys*, 874:1–18. <https://doi.org/10.3897/zookeys.874.36656>

6. **Chuang, A.** & Leppanen, C. (2018). Location and web substrate records of *Cyrtophora citricola* (Araneae: Araneidae) in southern Spain, including Tenerife, *Revista Ibérica de Aracnología*, 33: 89–100.
5. Bosco, J. & **Chuang, A.** (2018). A new species of grass spider, *Agelenopsis riechertii*, from the Southwestern USA, with notes on its courtship behavior (Araneae: Agelenidae), *Zootaxa*, 4442(4): 579–583. <https://doi.org/10.11646/zootaxa.4442.4.6>
4. Zhao, L., Panayotova, I. N., **Chuang, A.**, Bourouiba, L., Sheldon, K., & Miller, L. A. (2017). Flying spiders: simulating and modeling the dynamics of ballooning, *Women in Mathematical Biology*, 179–210. https://doi.org/10.1007/978-3-319-60304-9_10
3. Sheldon, K. S., Zhao, L., **Chuang, A.**, Panayotova, I., Bourouiba, L., & Miller, L. A. (2017). Revisiting the physics of spider ballooning, *Women in Mathematical Biology*, 163–178. https://doi.org/10.1007/978-3-319-60304-9_9
2. **Chuang, A.*** & Peterson, C. R.* (2016). Expanding population edges: theories, traits, and trade-offs, *Global Change Biology*, 22: 494–512. <https://doi.org/10.1111/gcb.13107>
1. Blamires, S. J., Piorkowski, D., **Chuang, A.**, Tseng, Y. H., Toft, S., & Tso, I. M. (2015). Can differential nutrient extraction explain property variations in a predatory trap? *Royal Society Open Science*, 2(3): 140479. <https://doi.org/10.1098/rsos.140479>

REVIEWS & OTHER PUBLICATIONS († Invited review, ♦ In Press)

8. ♦ **Chuang, A.** Can you save the tigers? *Science*.
7. † **Chuang, A.** & O. Schwery. (2020). Evolution makes a splash, *Science*. 367(6482): 1081–1081. <https://doi.org/10.1126/science.aba9172>
6. † **Chuang, A.** (2019). Only the strongest hive will survive, *Science*. 365(6459): 1255–1255. <https://doi.org/10.1126/science.aaz1804>
5. **Chuang, A.** & O. Schwery. (2019). Who cares? Parenting in invertebrate animals, *Frontiers for Young Minds*. 7:78 <https://doi.org/10.3389/frym.2019.00078>
4. **Chuang, A.** (2019). Fowl play, *Science*. 364(6435): 36–36. <https://doi.org/10.1126/science.aaw7753>
With subsequent appearances in:
 - * Not So Angry Birds: The Ornithology-Inspired Board Game 'Wingspan'. *All Things Considered, National Public Radio*. 9 April, 2020.
 - * A Board Game Where Birds (And Science) Win. *Short Wave, National Public Radio*. 21 February, 2020.
 - * Rolling Out The Best Science Board Games. *Science Friday*. 6 December, 2019.
3. † **Chuang, A.** (2018). Playing with particle physics, *Science*. 362(6418): 1005–1005. <https://doi.org/10.1126/science.aav5921>

2. † **Chuang, A.** & J. M. Bush. (2017). Book Review: Judith S. Weis and Daniel Sol (eds): Biological Invasions and Animal Behaviour, *Biological Invasions*. 6(19): 1951–1952.
<https://doi.org/10.1007/s10530-017-1400-x>
1. **Chuang, A.** (2017). Game changers, *Science*. 355(6325): 587–587.
<https://doi.org/10.1126/science.aam5437>

FUNDING & AWARDS (\$155,848 in total)

RESEARCH FUNDING (\$25,732, *internal university grants italicized*)

- 2019 *Open Access Publishing Fund, University of TN, \$810*
- 2018 Arachnological Research Fund, American Arachnological Society, **\$1000**
- 2017 David F. Ludwig Memorial Student Travel Scholarship, Association for Environmental Health and Sciences Foundation, **\$1000**
- 2017 *Dept. EEB Research Grant, University of TN, \$1800*
- 2016 *Dept. EEB Research Grant, University of TN, \$1050*
- 2016 Arachnological Research Fund, American Arachnological Society, **\$300**
- 2016 Love of Learning Grant, Phi Kappa Phi, **\$500**
- 2016 *W.K. McClure Scholarship Fund for the Study of World Affairs, University of TN, \$3000*
- 2016 The Explorers Club Exploration Fund- Mamont Scholars Program, **\$2000**
- 2015 *Dept. EEB Research Grant, University of TN, \$1072*
- 2015 Young Explorers Grant, National Geographic Society, **\$5000**
- 2015 The Lewis and Clark Fund for Exploration and Field Research, American Philosophical Society, **\$5000**
- 2014 Grants-In-Aid of Research, Sigma Xi, **\$700**
- 2014 *Dept. EEB Research Grant, University of TN, \$1072*
- 2013 *Dept. EEB Research Grant, University of TN, \$428*
- 2011 *Institute of International Studies Undergraduate Merit Scholarship, UC Berkeley, \$1000*

FELLOWSHIPS, AWARDS, AND HONORS (\$131,166, *internal awards italicized*)

- 2019 The J. Paul Blakely Award of Merit in Science Writing, Graduate Division, Society for Technical Communication, East Tennessee Chapter, **\$50**
- 2019 *Access and Diversity Fellowship, College of Arts and Sciences, University of TN, \$1000*
- 2019 *Daniel and Donna Popek Ecology Endowment Scholarship, Dept. Ecology and Evolutionary Biology (EEB), University of TN, \$7350*
- 2018 Diversity Travel Award, Animal Behavior Society, **\$125**
- 2018 *Tom Hallam Award for outstanding contributions to the grad experience, EEB, University of TN, \$500*
- 2018 *Travel Award, Graduate Student Senate, University of TN, \$700*
- 2017 *Tom Hallam Award for outstanding contributions to the grad experience, EEB, University of TN, \$500*
- 2017 *Travel Award, Graduate Student Senate, University of TN, \$480*
- 2017 Diversity Travel Award, Animal Behavior Society, **\$125**
- 2017 *Travel Award, Graduate Researchers in Ecology, Behavior, and Evolution, \$150*
- 2017 *Graduate Student Senate Award for Excellence in Research, University of TN*
- 2016 *Travel Award, Graduate Student Senate, University of TN, \$710*
- 2016 *Travel Award, Graduate Researchers in Ecology, Behavior, and Evolution, \$130*
- 2016 Travel Award, American Arachnological Society, **\$537**
- 2015 *Tom Hallam Award for outstanding contributions to the grad experience, EEB, University of TN*

- 2013 – 16 *Chancellor's Funds and Stipend Top-off Awards, University of TN, \$15,809 total*
 2013 National Science Foundation Graduate Research Fellowship, **\$102,000 total**
 2012 *Best Paper Award, Institute of International Studies, UC Berkeley, \$1000*

PRESENTATIONS († Invited talk)

- 2019 † **Chuang, A.** How does introduction and range expansion shape behavior in an orbweaver spider? Ecology, Evolution, Ecosystems, and Society Seminar, Dartmouth College, Hanover, NH, USA. Seminar.
- 2018 **Chuang, A.** & S. E. Riechert. Does an invasive orbweaver spider exhibit behavioral spatial sorting across its introduced range? South Eastern Population Ecology & Evolutionary Genetics Meeting, Pembroke, VA, USA. Oral.
- 2018 **Chuang, A.** & S. E. Riechert. How are personality types of a globally invasive spider structured in its invasive vs. native range? Ecological Society of America Meeting, New Orleans, LA, USA. Poster.
- 2017 **Chuang, A.** Defensive strategies of a forest cellar spider through ontogeny and reproductive state. Animal Behavior Society Meeting, Toronto, Ontario, Canada. Oral.
- 2016 **Chuang, A.** & S. E. Riechert. Behavior-driven range expansion in the colonial tentweb orbweaver, *Cyrtophora citricola*? International Congress of Arachnology, Golden, CO, USA. Poster.
- 2012 **Chuang, A.** Size and motherhood of a French Polynesian spider affects whirling and defensive behaviors. Institute of International Studies Symposium, Berkeley, CA, USA. Oral.

TEACHING & PEDAGOGY At The University of Tennessee, Knoxville

◆ Instructor of record, †Primary Instructor, *Graduate TA, ‡Guest Lecturer

- TEACHING:** ◆ Instructor of record, *Graduate TA, †Primary Instructor, ‡Guest Lecturer
- 2020 ◆ **PSYC 320-** Motivation; 5 sections, 200 students
 Includes 1 accelerated summer online section from May 28 – July 3, 2020
- 2019 ◆ **EEB 370/PSYC 370-** Evolutionary Psychology/Ethology; 2 sections, 30 students
 ◆ **PSYC 320-** Motivation; 2 sections, 104 students
 * **EEB 370/PSYC 370-** Evolutionary Psychology/Ethology; 1 section, 30 students *
 ‡ “Sociality, Cooperation, and Altruism”
- 2018 * **EEB 406/MATH 405-** Models in Biology; 18 students in lecture
 * **BIOL 150-** Skills of Biological Literacy; 3 discussion sections, 76 students *
- 2017 † **BIOL 167-** Honors: Skills of Biological Investigation; 2 laboratory sections, 33 students
- 2016 ‡ **BIOL 167-** “Crash Course in Statistics”, Honors: Skills of Biological Investigation; 2 laboratory sections, 35 students
- 2015 * **BIOL 159-** Skills of Biological Investigation; 2 laboratory sections, 48 students *
- 2014 * **BIOL 167-** Honors: Skills of Biological Investigation; 2 laboratory sections, 26 students

PEDAGOGY:

- 2019 “Crossing Boundaries for STEM Teaching”- Spring Regional Meeting and Mini-Conference, Tennessee STEM Innovation Network, The University of Tennessee
- 2018 **EEB 607**- Science Education Journal Club, 3 semesters
- 2016 **Practitioners Level Certification**- Best Practices in Teaching Course, Center for Integration of Research, Teaching, and Learning (CIRTL)
- 2016 **Associates Level Certification**- CIRTL

PROFESSIONAL ACTIVITIES

JOURNAL REVIEWER & EDITOR

- 2019 – Associate Editor, *Biological Invasions*
- 2015 – *Biological Invasions* (7), *Behavioral Ecology and Sociobiology* (2), *Behavioral Ecology* (1), *Movement Ecology* (2), *Southeastern Naturalist* (1), *Journal of Animal Ecology* (1)

UNDERGRADUATE MENTORSHIP

- 2017 – 20 Anthony Bowman, Savannah Sumatra, William Kirkpatrick: University of TN, EEB Mentoring Program
- 2018 Anna Cameron, Casey Fellhoelter, Han Noh Lee: “Egg sac predation rates by *Philolema palanichamyi* in the native range of a globally invasive spider”, University of TN, EEB, Riechert and Simberloff Labs
- 2016 Hannah Anderson, Edward Hutchinson: “Core vs. leading edge behavioral traits in the invasive range of the colonial orbweaver spider, *Cyrtophora citricola*”, Riechert Lab
- 2015 Ashish Gauli (Fisk University), Nathan Wikle (Truman State University), Ryan Yan (College of William and Mary): “Ships, Ports, Invasions, and Math: Invasive Species Movements through Global Shipping Routes”, Summer Research Experience project at the National Institute of Mathematical and Biological Synthesis, Knoxville, TN
Resulted in Comflo, an interactive visualization system on commodity flow in the United States, that won an award through NatureServe EcoInformatics Workshop
- 2014 Charles Blue, Jane Sheehan: “Repeatability of behavioral traits in an invasive orbweaver spider, *Cyrtophora citricola*”, Riechert Lab

CONTRIBUTOR

- 2016 – Studio Tomás Saraceno: *Hybrid Webs* art installations and sculptures, Berlin, Germany

WORKSHOP PARTICIPANT

- 2015 Women in Mathematical Biology: Aerodynamics of spider ballooning, National Institute of Mathematical and Biological Synthesis, Knoxville, TN

SOCIETY MEMBERSHIP

American Arachnological Society; American Naturalist; Animal Behavior Society; Citizen Science Association; Ecological Society of America; International Society of Arachnology; Society for Integrative and Comparative Biology

LEADERSHIP & SERVICE

- 2019 **Panelist**, STEM Graduate Student Chat, ASPIRE Brunch for rural, first generation college students, UTK

- 2017, '18 **Panelist**, "So You Want To Go To Grad School- Graduate School Demystified", UTK
 2018 **Organizer**, "Medical School Q&A for pre-med undergraduates", Dept. EEB, UTK
 2017 **Graduate Student Representative**, EEB Faculty Graduate Affairs Committee
 2016, '17 **President**, Graduate Researchers in Ecology, Behavior, and Evolution (GREBE)
 2016, '17 **Graduate Student Representative**, EEB Faculty Executive Committee
 2015 **Vice President**, GREBE, University of Tennessee
 2015, '16 **Member**, University of Tennessee Graduate Student Senate Travel Awards Committee
 2015, '16 **Senator**, University of Tennessee Graduate Student Senate
 2014, '15 **Organizer**, Dept. EEB Friday Seminar Committee, University of Tennessee

COMMUNITY ENGAGEMENT & SERVICE

- 2020 **Judge**, Exhibition of Undergraduate Research and Creative Achievement (EURēCA), UT
 2014 – 19 **Volunteer & Organizer**, UTK Darwin Week, UT, Knoxville, TN
 2018 **Presenter**, Invasive species awareness week, Cedar Bluff Middle School, Knoxville, TN
 2018 **Volunteer Leader**, Biodiversity unit: Stream ecology, West High School IB
 Biology Course, Knoxville, TN
 2018 **Judge**, Tennessee State Science Olympiad, Knoxville, TN
 2017 **Volunteer**, EEB Outreach Committee, Vestal Boys and Girls Club, Knoxville, TN
 2016 – 17 **Volunteer Instructor**, Kids University: Vertebrate Zoology, UT, Knoxville, TN
 2016 **Organizer**, "National Invasive Species Awareness Week", UT, Knoxville, TN
 2015 **Volunteer**, THRIVE program for underprivileged students, Knoxville, TN
 2015 **Presenter**, "Aliens Among Us: Invasive species in Knoxville", Knoxville
 Neighborhoods Conference, Knoxville, TN
 2015 **Volunteer Instructor**, Kids University: Animal Behavior, UT, Knoxville, TN
 2015 **Volunteer**, "Math in Nature" Pond Gap Elementary School, Knoxville, TN
 2014 **Volunteer Instructor**, Kids University: Bugs, UT Knoxville, TN
 2014 **Volunteer**, Arachnid outreach, U.S. Science and Engineering Fair, Washington D.C.
 2013 – 15 **Volunteer**, Bat Exhibit, "Boo at the Zoo", Knoxville Zoological Gardens, TN
 2012 **Leader**, Spider Outreach Camp, Caribbean Expedition, Dominican Republic

REFERENCES

PhD Major Advisor:

Dr. Susan Riechert
 (865) 974-6187
 569 Dabney Hall
 1416 Circle Drive
 Knoxville, TN 37996
 riechert@utk.edu

Collaborator:

Dr. Kimberly Sheldon
 (865) 974-1980
 569 Dabney Hall
 1416 Circle Drive
 Knoxville, TN 37996
 ksheldon@utk.edu

Committee Member:

Dr. Daniel Simberloff
 (865) 974-0849
 569 Dabney Hall
 1416 Circle Drive
 Knoxville, TN 37996
 dsimberloff@utk.edu