

Tyler B. Corey

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EDUCATION & TRAINING

2014 – Present	University of Nebraska-Lincoln	Ph.D. (Biological Sciences, focus in Ecology, Evolution and Behavior)
2010 – 2014	Tufts University	B.S. (major: Biology, minor: Music) Graduated Magna Cum Laude with Highest Thesis Honors

UNIVERSITY TEACHING EXPERIENCE

Instructor of Record, University of Nebraska-Lincoln

- BIOS 430/830: Communicating Science through Outreach (Spring 2018, Spring 2019)

Graduate Teaching Assistant, University of Nebraska-Lincoln

- BIOS 430/830: Communicating Science through Outreach (Fall 2017, Fall 2018)
- LIFE 121L: Fundamentals of Biology Lab (Spring 2015)
- BIOS 101L: General Biology Lab (Fall 2014)
 - Redesigned labs through volunteer graduate student seminar (Fall 2015)

Guest Lectures, University of Nebraska-Lincoln

- BIOS 462/862: Animal Behavior, “Avoiding Predators” (Fall 2019)
- BIOS 462/862: Animal Behavior, “Behavioral Adaptations for Survival” (Fall 2018)

Undergraduate Teaching Assistant for Animal Behavior, Tufts University (Spring 2013)

- Wrote and graded exams, met with students in office hours, provided feedback on lectures to course instructor, and gave guest lecture on human mate choice behavior

FELLOWSHIPS, HONORS & AWARDS

Graduate Research Fellowship Program, National Science Foundation, 2015-2020

Preparing Future Faculty Program, University of Nebraska-Lincoln, 2019

Grants-in-Aid of Research, Sigma Xi, 2019

First Prize Oral Presentation, University of Nebraska-Lincoln Biology Graduate Student Symposium, 2019

Student Research Grant, American Arachnological Society, 2018

Special Funds Fellowship, University of Nebraska-Lincoln School of Biological Sciences, Jessie A. Lee Fund, 2018

1st Place Judges’ Choice Award for “Peacock Spider Dance Dance Revolution,” SciComm 2018 Conference Science Festival

Winner, “Most Awesome Video Award” for “Pygids,” educational music video co-created with Dr. Matthew R. Wilkins, Arizona State University 2017 Science Showcase

1st Place at 2016 Evolution Film Fest for “Pygids,” Evolution Meeting

1st place at 2016 Arachno-Film Fest for “Pygids,” International Conference of Arachnology

1st Place at UNL Science Slam, University of Nebraska-Lincoln Materials Research Science and Engineering Center (MRSEC), March 2016
Pilot Fellowship, Organization for Tropical Studies, 2015
GAANN Fellowship, University of Nebraska-Lincoln, 2015
Chancellor's Fellowship, University of Nebraska-Lincoln, 2014 – 2016
Benjamin G. Brown Scholarship, Tufts University, 2014
Tufts University Summer Scholar, Tufts University, 2013
Dean's List, Tufts University, Fall 2010, Spring 2011, Spring 2012 – Spring 2013, Spring 2014

PEER-REVIEWED PUBLICATIONS

5. Hebets, E.A., P. Wonch-Hill, A. Matthews, K. Phillips, S.J.J. Weller, C. Whitney, and **T. B. Corey** (*Abstract Accepted, Invited Manuscript*) Using a College Curriculum for Community Engagement: Vertically Integrated Science Learning Opportunities for University, Middle, and Elementary School Students. *Journal of STEM Outreach*.
4. **Corey, T.B.** & E.A. Hebets (*In Review*) A characterization of social interactions across age and sex in the amblypygid *Paraphrynus laevifrons*. *Journal of Arachnology*.
3. **Corey, T.B.** & E.A. Hebets (2017) Microhabitat use in the amblypygid *Paraphrynus laevifrons*. *Journal of Arachnology*. 45(2):223-230.
2. Madden, A.A., S.D. Boyden, J.N. Soriano, **T.B. Corey**, W.L. Leff, N. Fierer & P.T. Starks (2017) The emerging contribution of social wasps to grape rot disease ecology. *PeerJ*. e3223; DOI 10.7717/peerj.3223.
1. Slabach, B.L., **T.B. Corey**, J.R. Aprile, P.T. Starks, & B. Dane (2016) Geophagic behavior in the mountain goat (*Oreamnos americanus*): Support for meeting metabolic demands. *Canadian Journal of Zoology*. 93:599-604.

PROFESSIONAL PRESENTATIONS, POSTERS & ABSTRACTS

13. **Corey, T.B.**, A. Matthews, P. Wonch-Hill, K. Phillips, S. Weller & E.A. Hebets (Accepted Abstract, November 2019) *Using College Curricula for Community Outreach – Vertically Integrated Science Learning Opportunities for Middle and Elementary Schoolers*. Oral presentation at the Entomological Society of America 2019 Meeting, Symposium on 21st Century Outreach: Innovative and Inclusive Outreach and Extension.
12. **Corey, T.B.** & E.A. Hebets (April 2019) *Testing the hypothesized antipredator defense function of stridulation in the spiny orb-weaving spider, *Micrathena gracilis**. Oral presentation at the University of Nebraska-Lincoln Biology Graduate Student Association Symposium. Lincoln, NE. **Winner, First Prize, Oral Presentation.**
11. **Corey, T.B.**, N. Graham*, & E.A. Hebets (March 2019) *Testing a hypothesized antipredator defense function of stridulation in the spiny orb-weaving spider, *Micrathena gracilis*, against avian predators*. **Poster presentation by Nicole Graham (mentored undergraduate student)** at the University of Nebraska-Lincoln School of Biological Sciences Undergraduate Research Symposium. **Winner, Alumni Award, Poster Presentation.**

10. **Corey, T.B.** & E.A. Hebets (February 2019) *Testing the hypothesised antipredator defence function of stridulation in the spiny orb-weaving spider, Micrathena gracilis*. Oral presentation at the 21st International Congress of Arachnology. Christchurch, NZ.
9. **Corey, T.B.** & E.A. Hebets (June 2017) Quantifying interactions across social contexts in the amblypygid *Paraphrynus laevifrons*. Oral presentation at the 2017 meeting of the Animal Behavior Society. Toronto, CA.
8. **Corey, T.B.** & A. Matthews (December 2017) “Vertically Integrated Science Learning Opportunities (VISLO): A Partnership between the University of Nebraska-Lincoln and the Community Learning Centers,” Oral presentation at the Annual Lincoln 21st Century Community Learning Centers Stakeholders’ Meeting (Lincoln, NE).
7. **Corey, T.B.** & E.A. Hebets (August 2016) Comparing display architecture across social contexts in the amblypygid *Paraphrynus laevifrons*. Poster presentation at the 2016 meeting of the Animal Behavior Society. Columbia, MO.
6. **Corey, T.B.** & E.A. Hebets (July 2016) Comparing display architecture across social contexts in the amblypygid *Paraphrynus laevifrons*. Poster presentation at the 20th International Congress of Arachnology. Golden, CO.
5. **Corey, T.B.** (January 2016) Amblypygi and the Evolution of Animal Communication (or, How I’ve started a Ph.D. in Arachnid Linguistics). Invited presentation to *Tufts University Tropical Ecology & Conservation Course*. La Selva Biological Station, Costa Rica.
4. **Corey, T.B.**, G.L. Ryman, A.J. Spence & E.A. Hebets (April 2015) Exploring the role of chemical cues in social recognition in the whip spider *Phrynus marginemaculatus* (Arachnida, Amblypygi). Poster presentation at the *University of Nebraska-Lincoln Biology Graduate Student Association Research Symposium*. Lincoln, NE.
3. **Corey, T.B.** (April 2014) Modeling consumption of lepidopteran larvae by the invasive European paper wasp, *Polistes dominulus*. Oral presentation at the *Tufts University Undergraduate Research & Scholarship Symposium*. Medford, MA.
2. **Corey, T.B.** (October 2013) Modeling the impact of invasive *Polistes dominulus* on community structure in eastern Massachusetts. Poster presentation at the *Tufts University Summer Scholars Poster Presentation*. Medford, MA.
1. **Corey, T.B.** (August 2013) Modeling consumption of lepidopteran larvae by invasive *Polistes dominulus*. Oral presentation at the *Tufts University NSF Research Experiences for Undergraduates Final Symposium*. Medford, MA.

MANUSCRIPT PEER-REVIEWING EXPERIENCE

- *Animal Behaviour*
- *Ethology*

- *Journal of Arachnology*
- *Zoologischer Anzeiger*
- *Journal of Insect Behavior*

MEDIA COVERAGE

The Daily Nebraskan, “UNL students pursue science passions in new, engaging way,” by Will Roper. February 10th, 2017. http://www.dailynebraskan.com/arts_and_entertainment/unl-students-pursue-science-passions-in-new-engaging-way/article_b98e18a4-ef37-11e6-81b0-038c137fbc94.html

Crastina, “Music video about Amblypygids won Evolution Film Festival,” by Olle Bergman. September 15th, 2016. <https://crastina.se/music-video-about-amblypygids-won-evolution-film-festival/>

Popular Science, “Science Slams Could Be The Future Of Communicating Research,” by Jason Lederman. March 29th, 2016. <https://www.popsci.com/science-slams-could-be-future-communicating-research/>

OUTREACH PROGRAM COORDINATION & IMPLEMENTATION

Science Communication Internship Program Mentor, *University of Nebraska State Museum (Lincoln, NE)*, September 2019 – Present

- Co-teaching UNL undergraduate students about best practices in informal STEM education, and mentoring students as they develop hands-on museum exhibits.

Nerd Nite Co-Boss, *Nerd Nite Lincoln*, January 2019 – Present

- Co-coordinating and hosting free, monthly Nerd Nite events, where three volunteers give 15-20 minute presentations and lead Q&A sessions on what they’re passionate about (e.g. science, art, hobbies, pop culture, volunteer work) to a general audience.

Program Coordinator, Vertically Integrated Science Learning Opportunities (VISLO) Grant with *Nebraska Department of Education, University of Nebraska-Lincoln, University of Nebraska State Museum, Lincoln 21st Century Learning Centers, and Lincoln Public Schools* (as part of the UNL Communicating Science through Outreach Course), August 2017 – May 2019

- Coordinated weekly meetings and field trips for “Creative Science Investigators” (CSI) clubs, led by UNL students for Lincoln Public Schools middle and elementary school students, across as many as 5 Community Learning Center sites per semester.
- Facilitated CSI joint clubs, where middle school students peer mentor and lead clubs for elementary school students.
- Organized and facilitated “Explore with LPS Junior Scientists” capstone events at the University of Nebraska State Museum (December 7th, 2017; April 29th, 2018; December 9th, 2018; May 5th, 2019), where CSI club students planned and led original exhibits.

Leader of the Communicating Research through Outreach Workshop, *University of Nebraska-Lincoln, Office of Graduate Studies*, January 26th, 2018

- Developed and led a two-hour, interactive workshop for University of Nebraska-Lincoln graduate students and postdoctoral fellows on effective strategies for communicating research to target audiences, and networking for local community outreach opportunities.

Coordinator, Investigate: Amblypygi, *University of Nebraska State Museum*, March 12th, 2016

- Designed and led hands-on museum exhibit on amblypygid communication and sensory biology, based on my dissertation research and previous work from the Hebets Lab.

- Most attended “Investigate” event at the University of Nebraska State Museum in its history, with 245 visitors in 2 hours.

Darwin Day Graduate Committee Member, *University of Nebraska-Lincoln and University of Nebraska State Museum*, February 12th-13th, 2016

- Coordinated design and implementation of informal science education activities about evolutionary biology at the University of Nebraska State Museum.

STEM Middle-School Club Leader, *Dawes Middle School (Lincoln, NE)*, Fall 2014 Semester

- Developed and implemented weekly, hour-long afterschool clubs on animal behavior.

SCIENCE COMMUNICATION & INFORMAL STEM EDUCATION PRESENTATIONS

Science Chat, *University of Nebraska State Museum*, September 24th, 2019

- Led remote field trips about my research and life as a biologist via Zoom for six 7th through 11th grade science classes in rural Nebraska public schools.

Nerd Nite, *The Happy Raven (Lincoln, NE)*, August 7th, 2019

- Gave an informal public presentation “I Study Spiders – Ask Me Anything,” fielding audience questions about arachnid biology and research.

“Spiders Alive!”, *Royal Botanical Garden (Ontario, CA)*, April 7th, 2019

- Led 30-minute, interactive teleconference presentation, “Why Whip Spiders are the Coolest Animals You’ve (Probably) Never Heard Of.”

Science Café, *University of Nebraska State Museum & The Happy Raven*, March 26th, 2019

- Led 30-minute presentation and Q&A on “How Not To Be Eaten” at The Happy Raven (audience ages 21+), about the evolution, mechanisms, and study of antipredator defenses.

Sunday with a Scientist: Animal Behavior, *University of Nebraska State Museum*, July 22nd, 2018; **Darwin Day**, February 19th, 2017

- Presented activity “Peacock Spider Dance Dance Revolution,” an interactive dance game and crafts station based on spider courtship behavior and morphology.
- Led hands-on exhibit about communication through scent for museum attendees.

Future Husker University, *University of Nebraska-Lincoln*, July 20th, 2018

- Led tour of the Hebets Laboratory for UNL alumni and their grandchildren.

Young Nebraska Scientist Program, *University of Nebraska-Lincoln’s Cedar Point Biological Station (Ogallala, NE)*, June 17 – 18th, 2018

- Led two-day session for high school students on animal behavior research and science communication, based on animal courtship and contest displays.
- Students conducted a pilot study on the dance displays of the zebra jumping spider.
- Discussed fundamental goals and approaches to science communication; students designed outreach activities based on the zebra jumping spider pilot study.

SciComm 2018 Science Fair, *University of Nebraska State Museum*, March 24th, 2018

- Presented “Peacock Spider Dance Dance Revolution” as part of the science communication conference’s public showcase of attendees’ outreach activities.

Evolution Film Fest Showcase, *University of Nebraska State Museum*, December 12th, 2017

- Led audience Q&A session about the making of our educational music video, “Pygids.”

“Spider Superpowers!”, *Edgerton Explorit Center Mad Scientist Program (Aurora, NE)*, October 19th and October 21st, 2017

- Planned and led two, two-hour interactive event on spider physiology, foraging, sensory biology, and courtship displays for visitors ages three and up.

Outdoor Explorers Day Camp “Spiders” Session, *Nebraska Game and Parks*, June 27th, 2017

- Developed and led a two-hour summer camp session on collecting and researching spiders for elementary school students.

Nerd Nite, *Cottonwood Café (Lincoln, NE)*, April 20th, 2017

- Gave an informal public presentation “Evolution Explained through Pokémon,” using Pokémon to explain fundamental principles of evolutionary biology.

Spider Walks, *Nebraska Outdoor Adventure Program*, April 18th & 19th, 2018; April 19th & 20th, 2017; April 13th, 2016

- Led 40-minute sessions about collecting and researching spiders for 4th and 5th grade classes from Nebraska schools at Platte River State Park.

Amigos Newsletter Article, “Microhabitat use in the amblypygid *Paraphrynus laevifrons*,” *Las Cruces Biological Station Amigos Newsletter (Coto Brus, Costa Rica)*

- Summarized study “Microhabitat use in the amblypygid *Paraphrynus laevifrons*” (Corey and Hebets 2017, *Journal of Arachnology*), along with personal anecdotes about fieldwork at Las Cruces Biological Station for the local community.

Archie’s Late Night, *University of Nebraska State Museum*, June 24th, 2016

- Taught museum attendees about amblypygid ecology, evolution, and behavior using live animals and hands-on activities.

Science Slam, *University of Nebraska-Lincoln*, March 16th, 2016

- Shared my initial experiences learning about and studying amblypygids, which subsequently set the stage for my initial dissertation research.

Eight-Legged Encounters, *US Science and Engineering Fair*, April 14th – 17th, 2016; *Denver Museum of Nature & Science*, September 2014

- Taught event attendees about arachnid ecology, evolution, and behavior using live animals and hands-on activities.

UNIVERSITY SERVICE

Graduate Student Representative, Faculty Search Committee, *University of Nebraska-Lincoln, School of Biological Sciences*, September 2019 – Present

- Developing job advertisement plan, reviewing applications, conducting remote interviews, and hosting on-campus interviews for a Professor of Practice faculty position.

Graduate Student Representative, Undergraduate Affairs Committee, *University of Nebraska-Lincoln, School of Biological Sciences*, January 2019 – Present

- Implemented a new School of Biological Sciences Undergraduate Research Symposium, with 22 poster presentations in its first year.
- Organized an “Ask a Graduate Student” volunteer group during the symposium, to connect undergraduates interested in graduate school with current graduate students.

President, Biology Graduate Student Association, *University of Nebraska-Lincoln, School of Biological Sciences*, October 2018 – September 2019

- Developed strategies for improving biology graduate student communication, professional development opportunities, social events, and community outreach.
- Planned and led monthly meetings of the Biology Graduate Student Association.
- Co-coordinated yearly Biology Graduate Student Association Research Symposium.

Panelist, “Applying for the NSF Graduate Research Fellowship Program” (GRFP),
University of Nebraska-Lincoln, Office of Graduate Studies, September 22nd, 2015

- Answered questions about writing the broader impacts and intellectual merit statements in the NSF GRFP application; shared opportunities for community outreach.