

Katherine A. Corn

Department of Evolution and Ecology
University of California, Davis
Davis, CA 95616

kacorn@ucdavis.edu
kacorn.github.io

Education

2016 – pres. **Ph.D. Evolution & Ecology**, University of California, Davis, CA 95616

Major professor: Dr. Peter C. Wainwright

Expected graduation date: June 2022

2016 **B.S. Biological Sciences**, Cornell University, Ithaca, NY 14850

cum laude, with Distinction in Research

Honors thesis advisor: Dr. William E. Bemis

2013 **A.A.**, Bard College at Simon's Rock, Great Barrington, MA 01230

Publications

7. Larouche, O., B. Benton, **K.A. Corn**, S.T. Friedman, D. Gross, M. Iwan, B. Kessler, C.M. Martinez, S. Rodriguez, H. Whelpley, P.C. Wainwright, S.A. Price. 2020. Reef-associated fishes have more maneuverable body shapes at a macroevolutionary scale. *Coral Reefs* 1-13, doi: 10.1007/s00338-020-01992-w.
6. Friedman, S.T., S.A. Price, **K.A. Corn**, O. Larouche, C.M. Martinez, P.C. Wainwright. 2020. Body shape diversification along the benthic-pelagic axis in marine fishes. *Proceedings of the Royal Society B: Biological Sciences* 287: 20201053, doi: 10.1098/rspb.2020.1053.
5. Price, S.A., O. Larouche, S.T. Friedman, **K.A. Corn**, P.C. Wainwright, C.M. Martinez. 2020. A CURE for a major challenge in phenomics: a practical guide to implementing a quantitative specimen-based undergraduate research experience. *Integrative Organismal Biology*, 2(1), doi: 10.1093/iob/obaa004.
4. Price, S.A., S.T. Friedman, **K.A. Corn**, C.M. Martinez, O. Larouche, P.C. Wainwright. 2019. Building a body shape morphospace of teleostean fishes. *Integrative and Comparative Biology*, 59(3), 716-730, doi: 10.1093/icb/icz115.
3. Farina, S.C., M.L. Knope, **K.A. Corn**, A.P. Summers, W.E. Bemis. 2019. Functional coupling in the evolution of suction feeding and gill ventilation of sculpins (Perciformes: Cottoidei). *Integrative and Comparative Biology*, 59(2), 394-409, doi: 10.1093/icb/icz022.

2. **Corn, K.A.**, S.C. Farina, A.P. Summers, A.C. Gibb. 2018. Effects of organism and substrate size on burial mechanics of English sole, *Parophrys vetulus*. *Journal of Experimental Biology*, 221(18), doi: 10.1242/jeb.176131.
1. **Corn, K.A.**, S.C. Farina, J. Brash, A.P. Summers. 2016. Modeling tooth-prey interactions in sharks - the importance of dynamic testing. *Royal Society Open Science* 3: 160141, doi: 10.1098/rsos.160141. ***cover image***

Manuscripts in progress

Corn, K.A., C.M. Martinez, E.D. Burress, P.C. Wainwright. A multifunction trade-off has contrasting effects on the evolution of form and function. *in review at Systematic Biology*.

Fellowships, Grants, & Awards

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|-------------|---|
| 2020 – 2021 | \$11,388: Achievement Rewards for College Scientists Foundation Scholar |
| 2020 | \$1,900: UC Davis Center for Population Biology Research Award |
| 2020 | \$1,835.50: XSEDE Startup Allocation |
| 2020 | David and Marvalee Wake Award: Best Student Oral Presentation in the Division of Phylogenetics and Comparative Biology at the Society for Integrative and Comparative Biology Annual Meeting |
| 2019 – 2020 | \$11,000: Peggy Huntington, Susan Oberndorf, Kiki Pescatello, & Kaye Woods Scholar; Achievement Rewards for College Scientists Foundation |
| 2019 | \$1,000: UC Davis Center for Population Biology Travel Award to attend the <i>Evolutionary Quantitative Genetics Workshop</i> at Friday Harbor Labs |
| 2019 | \$500: UC Davis Graduate Student Association Travel Award |
| 2018 | \$1,300: UC Davis Center for Population Biology Research Award |
| 2018 | Honorable Mention, National Science Foundation Graduate Research Fellowship |
| 2016 | \$500: Cornell University Office of Undergraduate Biology Travel Award |
| 2015 | Sigma Xi Best Undergraduate Poster Prize at the 40 th Annual Cornell University Department of Ecology & Evolutionary Biology Symposium. |
| 2015 | \$4,000: NSF Research Experience for Undergraduates (REU) internship with Dr. Adam Summers at Friday Harbor Laboratories |
| 2015 | \$1,000: Dextra Undergraduate Research Endowment Fund |
| 2015 | \$2,000: Brooks and Suzanne Ragen Endowed Scholarship (<i>declined</i>) |
| 2015 | \$500: Cornell University Office of Undergraduate Biology Travel Award |

- 2014 **\$1,000:** Stephen and Ruth Wainwright Endowed Fellowship to attend *Functional Morphology and Ecology of Fishes* at Friday Harbor Labs.
- 2011-2013 **\$50,000:** Bard College at Simon's Rock, Acceleration to Excellence Program Scholar

Teaching Experience

- 2020 Friday Harbor *Functional Morphology and Ecology of Fishes*: Guest Lecturer
 - Introduction to Phylogenetic Comparative Methods
 - Workshop: Statistical Methods in R (*co-instructed with Hannah Weller*)
- 2019 EVE 105: *Phylogenetic Analysis of Vertebrate Structure*, UC Davis.
 Graduate Teaching Assistant & Lab Instructor, 1 quarter
 Overall TA Evaluation: 4.9/5.0, n = 24 students
- 2017 – 2018 EVE 198: *Biodiversity of Fishes: Methods and Experimental Design in Macroevolution*, UC Davis. **Course Instructor**, 3 quarters
 Biodiversity of Fishes II: Hypothesis Development in Macroevolution
 Biodiversity of Fishes III: Data Analysis in Macroevolution
 Biodiversity of Fishes IV: Research Presentation

Teaching Assistant Experience

- 2020 EVE 12: *Life in the Sea*, UC Davis.
 Lead Graduate Teaching Assistant, 1 quarter
 Overall TA Evaluation: 4.7/5.0, n = 45 students
- 2017 – 2018 BIS 2B: *Introduction to Biological Sciences: Principles of Ecology and Evolution*, UC Davis. Graduate Teaching Assistant, 2 quarters
 Overall TA Evaluation: 4.9/5.0, n = 98 students
- 2016 BioEE 2740: *Vertebrates: Structure, Function, & Evolution*, Cornell University.
 Undergraduate Teaching Assistant, 1 semester
- 2015 BioEE 1540: *Introduction to Oceanography*, Cornell University.
 Undergraduate Teaching Assistant, 1 semester

Invited Seminars

- 2019 **Corn, K.A.** Effects of coral reefs on evolution of fish feeding mechanisms.
 University of California, Davis, Center for Population Biology. Davis, CA.
- 2017 **Corn, K.A.** From shark saws to fish jaws: Using biomechanics to explore evolution.
 Sonoma State University, Biology Department. Petaluma, CA.

Presentations (listed: presenting author only)

- 2020 **Corn, K.A.**, C.M. Martinez, E.D. Burress, P.C. Wainwright. High rates of evolution of cranial mobility are characteristic of suction feeding. Society for Integrative and Comparative Biology. January 3-7, Austin, TX. Oral presentation.

Won: David and Marvalee Wake Award for *Best Student Oral Presentation in the Division of Phylogenetics and Comparative Biology*

- 2019 **Corn, K.A.**, C.M. Martinez, P.C. Wainwright. Feeding mode and prey type affect cranial mobility in coral reef fishes. Society for Integrative and Comparative Biology. January 3-7, Tampa, FL. Oral presentation.
- 2017 **Corn, K.A.**, W.E. Bemis. Tooth Microstructure, Development, and Replacement in the Sharpnose Sevengill Shark, *Heptranchias perlo*. Society for Integrative and Comparative Biology. January 4-8, New Orleans, LA. Oral presentation.
- 2016 **Corn, K.A.**, S.C. Farina, A.C. Gibb, A.P. Summers. Scaling of Burial Mechanics in *Parophrys vetulus*, the English Sole. International Congress of Vertebrate Morphology. June 29 - July 3, Washington, DC. Poster.
- 2016 **Corn, K.A.**, S.C. Farina, A.C. Gibb, A.P. Summers. Scaling of Burial Mechanics in *Parophrys vetulus*, the English Sole. Society for Integrative and Comparative Biology. January 3-7, Portland, OR. Oral Presentation.
- 2015 **Corn, K.A.**, S.C. Farina, J. Brash, A.P. Summers. Jawzall: Effects of Shark Tooth Morphology and Repeated Use on Cutting. *Presented at:*
40th Annual Cornell University Department of Ecology and Evolutionary Biology Graduate Symposium. December 8, Ithaca, NY. Poster.
Won: Sigma Xi Undergraduate Poster Prize
Cornell Undergraduate Research Board Spring Forum. April 22, Ithaca, NY. Poster.
Cornell Institute of Biological Engineering BioExpo. March 18, Ithaca, NY. Poster.
Society for Integrative and Comparative Biology. January 3-7, West Palm Beach, FL. Poster.

Service & Outreach

- 2020 – pres. Logistics Co-coordinator, *Ecology & Evolution Graduate School Preview Day*, by the Population Biology Graduate Group Diversity Committee
- 2020 Mentor, Girls Outdoor Adventure in Leadership and Science at UC Davis
- 2020 *STEM Squad* Fish Dissection Activity Lead at Winters Middle School
- 2019 – pres. R teaching assistant, HBCU Graduate Admissions Pathways at UC Davis
- 2019 – 2020 Women in Life Sciences at Davis Administrative Team

- 2019 – 2020 Population Biology Graduate Group Admissions Committee graduate student representative
- 2019 – 2020 Population Biology Graduate Group Curriculum Committee graduate student representative
- 2019 Social Media Ambassador for symposium: “Multifunctional structures and multistructural functions: Functional coupling and integration in the evolution of biomechanical systems” at the annual meeting of the Society for Integrative and Comparative Biology
- 2017 – pres. Station Leader and Presenter – UC Davis Annual Picnic Day “Explore the Tree of Life” exhibit
Won: Best “Secrets of Nature” Exhibit Award (2017)
Won: Best “Planet Earth” Exhibit Award (2019)
- 2017 – pres. Exhibitor – UC Davis Annual Museum Biodiversity Day, fish exhibit
- 2017 – 2018 UC Davis Academic Senate Distinguished Teaching Awards Committee Graduate Student Association Representative
- 2017 – 2018 Population Biology Graduate Group Representative – UC Davis Graduate Student Association
- 2016 – pres. Founding member, Population Biology Student Diversity Committee
**Recruitment & University connections subcommittees*
***Coordinator: Winter 2019**
- 2015 – 2016 Facilitator – Expanding Your Horizons STEM Conference for 7-9th grade girls – Marine Biology Workshop
- 2015 Peer Mentor – Cornell Undergraduate Research Board mentorship program
- 2015 Presenter – Cornell Office of Undergraduate Biology research outreach
- 2015 Interview with Science Magazine. “[A chainsaw spiked with shark teeth.](#)”
- 2015 Interview with Popular Science. “[Watch A Power Saw Made With Shark Teeth Slice Through Salmon.](#)”

Reviews

Integrative and Comparative Biology (1)
 Journal of Fish Biology (2)

Professional Affiliations

- 2020 – pres. Society for the Study of Evolution
- 2016 – pres. International Society of Vertebrate Morphology
- 2014 – pres. Society for Integrative and Comparative Biology
- 2016 – pres. PADI Divemaster

Last updated: 7 September 2020