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 2021

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

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*, icz115, doi: 10.1093/icb/icz115.

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.

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.

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.

Manuscripts in progress

Price, S.A., O. Larouche, S.T. Friedman, **K.A. Corn**, P.C. Wainwright, C.M. Martinez. A CURE for a major challenge in phenomics: a practical guide to implementing a quantitative specimen-based undergraduate research experience. *submitted* at *Integrative Organismal Biology*.

Friedman, S.T., S.A. Price, **K.A. Corn**, O. Larouche, C.M. Martinez, P.C. Wainwright. Body shape diversification along the benthic-pelagic axis in marine fishes. *submitted* at *Proceedings of the Royal Society B: Biological Sciences.*

Fellowships, Grants, & Awards

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 *Evolutionary Quantitative Genetics Workshop* 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 40th Annual Cornell University Department of Ecology and Evolutionary Biology Graduate 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 *(declined)*

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

2019 EVE 105: *Phylogenetic Analysis of Vertebrate Structure*, UC Davis.
Lead Graduate Teaching Assistant, 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

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. *(upcoming)*

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

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*, *Program structure*, & *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."

Research Experience

2017 – 2018 University of California, Davis at Smithsonian Institution – Macroevolution of body shape in fishes

2016 – pres. University of California, Davis – PhD research: Effects of coral reefs on evolution of fish feeding mechanisms

2015 – 2016 Cornell University – Undergraduate honors thesis: Microstructure and histology of Sixgill and Sevengill shark teeth

2015 NSF-REU, Friday Harbor Laboratories – Biomechanics of flatfish burial

2015 Cornell University – Evolutionary morphology of sculpin cranial anatomy

2014 Friday Harbor Laboratories – Shark tooth cutting ability

2013 Bard College at Simon's Rock Biology internship – Fish ecology, molecular biology

Reviews

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

Professional Affiliations

2019 – pres. American Society of Naturalists
2016 – pres. International Society of Vertebrate Morphology
2014 – pres. Society for Integrative and Comparative Biology

2016 – pres. PADI Divemaster

Last updated: 17 October 2019