

Katherine A. Corn

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Professional Experience & Education

- 2022 – pres. Postdoctoral Researcher, Virginia Polytechnic Institute & State University, Blacksburg, VA 24061
Mentor: Josef C. Uyeda
- 2022 Ph.D. Population Biology, University of California, Davis, CA 95616
Major professor: Peter C. Wainwright
Committee: Michael Turelli, Stacey A. Combes
- 2016 B.S. Biological Sciences, Cornell University, Ithaca, NY 14850
cum laude, with Distinction in Research
Honors thesis advisor: William E. Bemis
- 2013 A.A. Bard College at Simon's Rock, Great Barrington, MA 01230
Advisor: Patty Dooley
Acceleration to Excellence Scholar

Peer-Reviewed Publications

11. **Corn, K.A.**, S.T. Friedman, E.D. Burrell, C.M. Martinez, O. Larouche, S.A. Price, P.C. Wainwright. 2022. The rise of biting during the Cenozoic fueled reef fish body shape diversification. *Proceedings of the National Academy of Sciences*, 119 (31) e2119828119.
10. Price, S.A., S.T. Friedman, **K.A. Corn**, O. Larouche, K. Brockelsby, A.J. Lee, M. Nagaraj, N. Bertrand, M. Danao, J.R. Estrada, R. Friedman, M. Iwan, D. Gross, B. Landry, M.J. Linares, J.R. Nguyen, A.J. Proffitt, S. Rodriguez, M.R. Rupp, V. Susman, A.J. Tovar, L.L.J. Vary, K.L. Zapfe, & P.C. Wainwright. 2022. FishShapes v1: functionally relevant measurements of teleost shape and size on three dimensions. *Ecology*, e3829.

9. Martinez, C.M., S.T. Friedman, **K.A. Corn**, O. Larouche, S.A. Price, P.C. Wainwright. 2021. The deep sea is a hot spot of fish body shape evolution. *Ecology Letters*, 24, 1788–1799.
8. **Corn, K.A.**, C.M. Martinez, E.D. Burress, P.C. Wainwright. 2021. A multifunction trade-off has contrasting effects on the evolution of form and function. *Systematic Biology*, 70(4), 681-693.
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* 39, 1427–1439.
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.
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), 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. ***Editor's choice***
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.
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): jeb176131.
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. ***cover image***

Fellowships, Grants, & Awards

- 2022 *Finalist*, Society for Integrative and Comparative Biology, Dwight Davis Award
- 2021 – 2022 American Association of University Women Dissertation Fellowship (\$20,000)
- 2019 – 2022 Achievement Rewards for College Scientists Fellowships (total \$34,446)
- 2021 *Finalist*, Society of Systematic Biologists, Ernst Mayr Award
- 2021 UC Davis Graduate Research Award (\$3,000)
- 2019, 2021 UC Davis Center for Population Biology Travel Awards (total \$2,677)
- 2021 Society for Integrative & Comparative Biology Grant-in-aid of research (\$1,000)
- 2020 UC Davis DataLab Election Data Challenge winner
- 2018, 2020 UC Davis Center for Population Biology Research Awards (total: \$2,700)
- 2020 XSEDE Computational Resources Allocation (\$1,835.50)
- 2020 *Winner*, Society for Integrative & Comparative Biology, David & Marvalee Wake Award
- 2019 UC Davis Graduate Student Association Travel Award (\$500)
- 2018 *Honorable mention*, National Science Foundation Graduate Research Fellowship
- 2015, 2016 Cornell University Office of Undergraduate Biology Travel Awards (total \$1,000)
- 2015 Cornell University Department of Ecology & Evolutionary Biology Symposium, Sigma Xi Best Undergraduate Poster Prize
- 2015 NSF Research Experience for Undergraduates internship (\$4,000)
- 2015 Dextra Undergraduate Research Endowment Fund (\$1,000)
- 2015 Brooks and Suzanne Ragen Endowed Scholarship (\$2,000) (*declined*)
- 2014 Stephen and Ruth Wainwright Endowed Fellowship (\$1,000)
- 2011-2013 Bard College at Simon's Rock, Acceleration to Excellence Scholar

Teaching Experience

Instructor

- 2019 Phylogenetic Analysis of Vertebrate Structure
UC Davis – Graduate Teaching Assistant & **Lab Instructor** – 1 quarter
Overall evaluation: 4.9/5.0, n = 24 students
- 2017 – 2018 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 Communication

Guest Lectures

- 2022 Evolution I St. Ambrose University
- Evolution research
- 2021 Natural History of Vertebrates I University of San Diego
- Convergent Evolution
- 2020 Functional Morphology & Ecology of Fishes I Friday Harbor Marine
Laboratories
- Introduction to Phylogenetic Comparative Methods
- Workshop: Statistical Analysis in R (co-instructed with Hannah Weller)

Teaching Assistantships

- 2021 Phylogenetic Analysis of Vertebrate Structure
UC Davis – Graduate Teaching Assistant & Virtual Lab Instructor – 1
quarter
Overall TA evaluation: 4.9/5.0, n = 14 students
- 2020 Life in the Sea
UC Davis – Graduate Teaching Assistant – 1 quarter
Overall TA evaluation: 4.7/5.0, n = 45 students

- 2017 – 2018 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 Vertebrates: Structure, Function, & Evolution
Cornell University – Undergraduate Teaching Assistant – 1 semester
- 2015 Introduction to Oceanography
Cornell University – Undergraduate Teaching Assistant – 1 semester

Professional Presentations

Invited Seminars

- 2023 International Society for Vertebrate Morphology. Symposium: *The morphology of coral reef fishes: functional, ecological, and evolutionary implications*. Cairns, Australia. *upcoming*.
- 2022 Washington State University, School of Biological Sciences. Pullman, WA. *upcoming*.
- 2022 University of California, Davis, Center for Population Biology. Davis, CA.
- 2020 University of California, Davis, Webinar: *DataLab California 2020 Election Challenge Finale*. Davis, CA.
- 2019 University of California, Davis, Center for Population Biology. Davis, CA.
- 2017 Sonoma State University, Department of Biology. Petaluma, CA.

Conference Talks

- 2022 Society for Integrative & Comparative Biology, virtual conference.
Finalist, Dwight Davis Award for Outstanding Student Talk in the Division of Vertebrate Morphology
- 2021 Evolution, virtual conference.
Finalist, Ernst Mayr Award for Outstanding Student Talk in the Society of Systematic Biologists
- 2021 Society for Integrative & Comparative Biology, virtual conference.

2020 Society for Integrative & Comparative Biology, Austin, TX.

Winner, David & Marvalee Wake Award for Outstanding Student Talk in the Division of Phylogenetics & Comparative Biology

2019 Society for Integrative & Comparative Biology, Tampa, FL.

2017 Society for Integrative & Comparative Biology. New Orleans, LA.

2016 Society for Integrative & Comparative Biology. Portland, OR.

Poster Presentations

2016 International Congress of Vertebrate Morphology, Washington, DC. Poster.

2015 40th Annual Cornell University Department of Ecology and Evolutionary Biology Graduate Symposium, Ithaca, NY.

Winner, Sigma Xi Undergraduate Poster Prize

2015 Cornell Undergraduate Research Board Spring Forum. Ithaca, NY.

2015 Cornell Institute of Biological Engineering BioExpo. Ithaca, NY.

2015 Society for Integrative & Comparative Biology. West Palm Beach, FL.

Professional Training

2021 Introduction to Remote Computing – UC Davis DataLab
Instructor: Dr. C. Titus Brown

2019 Evolutionary Quantitative Genetics – Friday Harbor Marine Laboratories
Instructors: Dr. Joseph Felsenstein & Dr. Stevan J. Arnold

2014 Functional Morphology & Ecology of Fishes – Friday Harbor Marine
Laboratories
Instructors: Dr. Adam P. Summers & Dr. E.W. "Misty" Paig-Train

Professional Activities

Diversity, Equity, and Inclusion

2021 – 2022 Population Biology Diversity Committee Representative to Evolution &
Ecology Seminar Committee

2020 – 2021 Co-founder, Ecology & Evolution Graduate School Preview Program

Executive board, logistics co-coordinator (2020)

Presenter – *Finding a Good Fit* programming (2020-2021)

2019 – 2020 Women in Life Sciences at Davis Administrative Team

2019 – 2020 R teaching assistant, HBCU Ecology & Evolution Graduate Admissions Pathways, University of California, Davis

2016 – pres. Founding member, Population Biology Student Diversity Committee

Coordinator, Winter 2019

Journal Referee

Biological Journal of the Linnean Society – Ecology & Evolution – Evolution –
 Integrative and Comparative Biology – Journal of Fish Biology – Journal of Mammalogy
 – Proceedings of the Royal Society B: Biological Sciences

Society Membership

International Society of Vertebrate Morphology – Society for Integrative & Comparative
 Biology – Society of Systematic Biologists – Society for the Study of Evolution – PADI
 Divemaster

Society Service

- 2021 Research methods advisor, Ask-An-Expert Booth, Division of
 Phylogenetics and Comparative Biology at annual meetings of the
 Society for Integrative & Comparative Biology
- 2021 Co-organizer: Job hunting tips and tricks: A panel discussion on finding a
 faculty position in Ecology and Evolutionary Biology workshop, annual
 meeting of the Society for Integrative & Comparative Biology
- 2020 – 2021 Committee for Remote Social and Networking Events, annual meeting of
 the Society for Integrative & Comparative Biology
- 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 & Comparative Biology

Graduate Student Representation

2019 – 2020 Population Biology Graduate Group Admissions Committee
2019 – 2020 Population Biology Graduate Group Curriculum Committee
2017 – 2018 UC Davis Academic Senate Distinguished Teaching Awards Committee
2017 – 2018 Population Biology Graduate Group Representative to UC Davis
Graduate Student Association

Community Engagement and Outreach

Mentorship

2020 Mentor for high school student, Girls Outdoor Adventure in Leadership and Science at UC Davis
2015 Peer Mentor, Cornell Undergraduate Research Board

Public Exhibitor

2017 – 2022 Station Leader and presenter – UC Davis Annual Picnic Day “Explore the Tree of Life” exhibit, fish section
Best “Secrets of Nature” Exhibit Award (2017)
Best “Planet Earth” Exhibit Award (2019)
2017 – 2020 Exhibitor – UC Davis Annual Museum Biodiversity Day, fish exhibit
2015 Speaker – Cornell Office of Undergraduate Biology research outreach

K-12 Activity Leadership

2020 STEM Squad Fish Dissection Lead at Winters Middle School
2015 – 2016 Facilitator – Expanding Your Horizons STEM Conference – Marine Biology

In the News

2022 UC Davis News. “[Reef fish evolution driven by recent evolution of biting.](#)”
2015 Science Magazine. “[A chainsaw spiked with shark teeth.](#)”

2015 Popular Science. "[Watch a power saw made with shark teeth slice through salmon.](#)"

References

Peter C. Wainwright | PhD Major Professor

Distinguished Professor, University of California, Davis

pcwainwright@ucdavis.edu

Christopher M. Martinez | Collaborator

Assistant Professor, University of California, Irvine

c.martinez@uci.edu

Josef C. Uyeda | Postdoctoral Advisor

Assistant Professor, Virginia Polytechnic Institute and State University

juyeda@vt.edu

Michael Turelli | PhD Committee Member

Distinguished Professor, University of California, Davis

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Last updated: 30 September 2022