Katherine A. Corn

Department of Biological Sciences kacorn@vt.edu
Virginia Polytechnic Institute & State University kacorn.github.io
Blacksburg, VA 24061

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. Burress, 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 | St. Ambrose University
- Evolution research

2021 Natural History of Vertebrates | University of San Diego
- Convergent Evolution

2020 Functional Morphology & Ecology of Fishes | 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

mturelli@ucdavis.edu

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