PETER C. WAINWRIGHT

CURRICULUM VITAE

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EDUCATION:

1988 Ph.D. (Anatomy). University of Chicago. (George Lauder, major professor).
1980 B.Sc. (Zoology). Duke University.

PROFESSIONAL EMPLOYMENT & APPOINTMENTS:

2015–2016 Interim Dean, College of Biological Sciences, UC, Davis.
2013-2015 Executive Associate Dean for Research & Resources, College of Biological Sciences, University of California, Davis
2011 –2013 Chair, Department of Evolution and Ecology, University of California, Davis
2002 – Professor of Evolution and Ecology, University of California, Davis
2001- 2007 Chair, Population Biology Graduate Group, University of California, Davis
1999- 2002 Associate Professor, Evolution and Ecology, University of California, Davis
1996 – 1998 Associate Professor of Biological Science, Florida State University
1991- 1996 Assistant Professor of Biological Science, Florida State University
1990-1991 Assistant Professor of Biological Sciences, Florida International University
1988-1990 Postdoctoral Researcher with Dr. Albert F. Bennett, U. of California, Irvine

AWARDS & HONORS:

2017 UC Davis Faculty Research Lecture Award
2016-Present Distinguished Professor, University of California, Davis
2015 Fellow of the American Academy of Arts and Sciences
2015-16 President, Society for Integrative and Comparative Biology
2010 Fellow of the California Academy of Sciences
2009 Distinguished Teaching Award, College of Biological Sciences U. C. Davis.
2008 Distinguished Teaching Award, Academic Senate, University of California, Davis.
1998 Developing Scholar Award, Florida State University.
1997 Fellow of the American Association for the Advancement of Science.
1995 Teaching Incentive Program Award, State of Florida.
1994 George Bartholomew Award in comparative physiology, American Society of Zoologists.

1987 D. Dwight Davis Award for best student paper in Vertebrate Morphology, American Society of Zoologists.
1986 Stoye Award for best student paper in Ecology, Ethology and Environmental Physiology, American Society of Ichthyologists and Herpetologists.

RESEARCH INTERESTS:

1. Diversification of functional morphology and biomechanics in vertebrates.
2. Evolution of fishes.
3. Functional morphology, ecology and evolution of fishes.
4. Phylogenetics and comparative methods.

GRANTS:

2016-2019. National Science Foundation. Disentangling the drivers of body form diversity in teleost fish species. DEB-1556953. $643,300 (co-PI with Samantha Price, PI).
2015-2017. National Science Foundation. DISSERTATION RESEARCH: Innovation and constraint: the evolution of power-amplified feeding in syngnathiform fishes. DEB-1010849. $20,290
2011-2014. National Science Foundation. Causes and consequences of exceptional diversity in spiny-rayed fishes. DEB-1061981. $297,000
2010. National Science Foundation. Fitness landscapes in a recent adaptive radiation of *Cyprinodon* pupfishes. DEB- 1010849. $20,364
2009-2014. National Science Foundation. Suction feeding evolution: Functional morphology, biomechanics and performance. IOS-0924489. $807,000
2008-2011. National Science Foundation. The evolution of cranial forms in anguilliform fishes. IOS-0819009. $342,000. (co-PI with Rita Mehta, PI)
2007-2010 National Science Foundation. Phylogenetics and key innovations in labroid fishes. DEB-0717009. $276,000.
2007 National Science Foundation. Dissertation Research: Factors contributing to the morphological diversification of darters (Teleostei: Percidae). DEB – 0710394. with Rose Carlson. $5,556.
2007 National Science Foundation. Workshop: Evolution of motor patterns. IOB-0716834. $46,141.
2006 National Science Foundation. ROA- Biomechanics of suction feeding in teleost fishes. IOB-0610310. $15,619.
2005-2008. National Science Foundation. Biomechanics of suction feeding in teleost fishes. (with co-PI Angela Cheer) IOS-0444554 $440,653.
2004 Smithsonian Institution Caribbean Coral Reef Ecosystem. Quantitative assessment of herbivorous reef fish populations near Carrie Bow Cay: $2,380.
2003-2005. National Science Foundation. SGER: Biomechanics of suction feeding in teleost fishes. IBN-0326968 $99,954.
2001-2002. Faculty Research Grant, U.C. Davis. Biomechanical constraints on suction feeding fishes. $11,415.
2001-2003. National Science Foundation. Dissertation Research: Testing for disruptive competition in solitary populations of the three-spined stickleback. DEB-0105147. $10,000. (Dan Bolnick, Doctoral Student)
2000-2003. National Science Foundation. Evolution of the pharyngeal jaw apparatus in ray-finned

fishes. IBN-0076436. $209,157.

1998-2001. Australia Research Council. Biomechanical diversity, performance and ecology of feeding in labrid fishes from the Great Barrier Reef and Caribbean. A19802057. AU $212,430. (co-PI with David Bellwood).

1997-1999. National Science Foundation. Dissertation Research: Convergent evolution of mollusc crushing in teleost fishes. IBN-9766042. $9,487. (Justin Grubich, Doctoral Student)

1993-1999. National Science Foundation. Evolution of organismal design: functional morphology of tetraodontiform fishes. IBN-9306672 $500,000.

PROFESSIONAL SOCIETIES:

Society for Integrative and Comparative Biology
Society for the Study of Evolution
American Society of Ichthyologists and Herpetologists
Society for Systematic Biology

RECENT FIELD SITES:

Okinawa, Japan, 2018
Venice, Florida, 2017
Kona, Hawaii, 2013, 2014
La Paz, Mexico, 2010
Curacao, 2010
Panama, 2005
Belize, 2004, 2005 & 2006
Palau, 2003 & 2008
Florida, 2002 & 2003
Pohnpei, Micronesia, 2001
Moorea and Tahiti, 2000
Bonaire, 1999
Bahamas, Lee Stocking Island, 1999
Australia, Great Barrier Reef – Lizard Island Research Station, 1998

NATIONAL SERVICE:

Society and Board Service:

National Evolutionary Synthesis Center. Board of Advisors. 2005-2008.

Society for Integrative and Comparative Biology (formerly American Society of Zoologists). President Elect (2013-2015), Division of Vertebrate Morphology: Division Chair 1997-1999. Division of Systematic Biol. 1992-1995 Program Officer.

AAAS. Council Delegate in Biological Sciences. 1998-2001.

American Society of Ichthyologists and Herpetologists:

2007-2012 Board of Governors. 1987-1989 Committee on Graduate Student Participation.

Grant Review and National Science Foundation Service:

Royal Society, London
Workshop Organizer: Evolution of Motor Patterns (funded by and held at the National Science Foundation, June 5-6, 2007)
Austrian Science Fund – 2 grant reviews
Panelist since 1992: Ecological and Evolutionary Physiology (1 panel, invited 3 additional times), Environmental Biology Dissertation Improvement Awards (2 panels), Sensory Systems and Movement (4 panels, 2005, 2007, 2010, 2013).
1992-present. Research Proposal Peer Review: 44 proposals for Ecological and Evolutionary Physiological Panel, Systematic Biology Panel.
1992: Systematics 2000 (NSF - Advisory Panel).

Journal Activities:

2018. Guest Reviewing Editor *eLife*.
2011 - 2015. Senior Advisory Board & Deputy Editor. Journal of Morphology
2008 – 2011. Associate Editor, Functional Ecology
2005 - 2007. Editorial Board, Integrative and Comparative Biology
2005 – 2019. Editorial Advisory Board, Zoology
2002 – 2005. Associate Editor, American Naturalist
2002 – 2005. Associate Editor, Evolution
1995- 1997. Assistant Editor, Systematic Biology.
1991-present. I have reviewed manuscripts for the following 92 journals: *Acta Anatomica, Acta Zoologica Bulgarica, Acta Ichthyologica et Piscatoria, American Journal of Physics, American Naturalist, American Zoologist, Anatomical Record, Animal Behavior, Aquaculture, Arthropod Structure & Development, Behavior & Brain Research, Belgian Journal of Zoology, Biological Bulletin, Bioscience, Biological Journal of the Linnean Society, Biology Letters, BMC Ecology, BMC Evolutionary Biology, Bulletin of Marine Science, Canadian Journal of Fisheries and Aquatic Sciences, Canadian Journal of Zoology, Comparative Biochemistry and Physiology, Contributions to Zoology, Copeia, Coral Reefs, Current Biology, Ecology, Ecology of Freshwater Fishes, Ecosphere, eLife, Environmental Biology of Fishes, Ethology, Evolution, Evolutionary Biology, Evolutionary Ecology Research, Functional Ecology, Genome Biology, Global Ecology and Biogeography, Heredity, Ichthyological Research, Israel Journal of Zoology, Journal of Anatomy, Journal of Animal Ecology, Journal of Applied Ichthyology, Journal of Biogeography, Journal of Comparative Physiology A, Journal of Comparative Physiology B, Journal of Crustacean Biology, Journal of Experimental Biology, Journal of Experimental Zoology, Journal of Fish Biology, Journal of the Marine Biological Association of the United Kingdom, Journal of the Royal Society - Interface, Journal of Morphology, Journal of Theoretical Biology, Limnology & Oceanography, Marine Ecology Progress Series, Marine Environmental Research, Molecular Biology and Evolution, Molecular Ecology, Molecular Phylogenetics & Evolution, Nature, Nature Communications, Naturwissenschaften, Netherlands Journal of Zoology, Oecologia, Oikos, Palaeontology, Palaios, Paläontologische Zeitschrift, Philosophical Transactions of the Royal Society, Physiological Zoology, PLoS One, Proceedings of the National Academy of Sciences, Proceedings of the Royal Society B, Science, Science Advances, Science of Nature; Southwestern Naturalist, Systematic Biology, Transactions of the American Fisheries Society, Transactions of the Royal Society of London B, ZACS, Zoological Journal of the Linnean Society, Zoology, Zoological*

Letters, Zoological Science, *Zoological Studies*, *Zoologischer Anzeiger, Zoomorphology, Zootaxa*.

1991-present. I have reviewed book chapters or book proposals for the following publishers: BIOS, Oxford University Press, Stanford University Press, University of Chicago Press, Wadsworth Publishing (book proposal)

1991-present. I have reviewed book manuscripts for the following publishers: Academic Press, University of Chicago Press.

COURSES TAUGHT AT UNIVERSITY OF CALIFORNIA, DAVIS:

1. Comparative Vertebrate Anatomy, EVE 105. 1999, 2000, 2004, 2008, 2010, 2013, 2015, 2017, 2019.
2. Physiological Ecology, ECL 203. Spring 2000, 2001, 2003, 2005 (co-taught with Joe Cech).
3. Applied Phylogenetics EVE 211, Spring 2000, '01, '02, '03, '04, '05, '06, '07, '08, '09, '10, '11, '12, '13, '14, '15, 17'. (currently co-organized with Brian Moore).
4. Biological Sciences 1B, Introductory Evolution & Metazoan Diversity. Fall 2001, 2003, 2006, 2007, Phylogenetics and the Tree of Life BIS 2C. Fall 2009, Spring 2014
5. Population Biology 200C macroevolution. Spring 2002, 2007, 2008, 2009, 2010, 2011, 2012, 2013.
6. Life in the Sea. EVE 12. Spring 2019.

COURSES TAUGHT AT FLORIDA STATE UNIVERSITY:

1. Human Gross Anatomy, ZOO 5735C. Summer 1992, 1993, 1994, 1995, 1996, 1997.
2. Comparative Vertebrate Anatomy, ZOO 3713C. Fall 1994. Spring, 1997
3. Evolutionary Morphology, PCB 5938. Fall, 1992
4. Human Evolution, Senior Tutorial (5 Students with senior status), BSC-4921. Fall 1994, Spring 1996.
5. Advanced Field Biology, PCB 5938. (one of four sections) Fall 1992.

LABORATORY PERSONNEL

Post-doctoral Researchers:

Ralph Turingan, 1993-1995, Currently Professor Biological Science, Florida Institute of Technology.
John Friel, 1995-1998. Currently Director of the Alabama Museum of Natural History.
Lara Ferry-Graham, 1999-2003. Currently Professor Arizona State University West.
Mike McCay, 2001-2003. PhD from University of California, Berkeley.
Thomas Near, 2001-2003. Currently Professor, Yale University.
Michael Alfaro, 2001-2003. Currently Professor, University of California Los Angeles.
Steven Day, 2003-2005. Currently Professor, Rochester Institute of Technology.
Kristin Bishop, 2007-2009. Currently Instructor, Florida International University.
Rita Mehta, 2005-2010. Currently, Associate Professor, University of California, Santa Cruz.
Roi Holzman, 2006-2010. Currently Associate Professor, University of Tel Aviv.
Lars Schmitz, 2009-2012. Currently Associate Professor Keck Science Center, Claremont Colleges.
Chris Oufiero, 2010-2012. Currently Associate Professor, Towson University.
Thomas Claverie, 2012-2013. Currently Assistant Professor University of Mayote.

Samantha Price, 2008-2017 Currently Assistant Professor at Clemson University.
Luke Mahler, 2011-2014. Currently Assistant Professor, University of Toronto.
Jose Tavera, 2012-2015. Currently Assistant Professor, University of Cali, Colombia.
Hannah Wood, 2012-2014. Currently Assistant Curator, National Museum of Natural History.
David Collar, 2013-2014. Currently Assistant Professor at Christopher Newport University.
Jennifer Hodge, 2014-2019. Currently Postdoctoral Researcher at Clemson University.
Christopher Martinez, 2016-present. PhD Stony Brook University.
Anthony Barley, 2017-present. PhD University of Kansas.
Edward Burress, 2017-present. PhD Auburn University.

Graduate Students:

Barton Richard, MSc 1994. Scaling of feeding functional morphology in largemouth bass, *Micropterus salmoides*.
Kellie Rebello, MSc 1995. Functional morphology and ecology of feeding in pufferfishes.
Steve Schenk, MSc 2001. Functional basis of claw diversity in brachyuran crabs.
Justin Grubich, Ph.D. 2001. Biomechanical bases of convergent evolution of mollusk crushing in teleost fishes. Currently with Pew Charitable Trust.
Thomas Waltzek, MSc 2002. Functional morphology of extreme jaw protrusion in cichlid fishes. Currently Assistant Professor, University of Florida.
Daniel I. Bolnick, Ph.D. 2003. Intraspecific competition and niche width. Professor, Ecology and Evolution, University of Texas at Austin.
C. Darrin Hulsey, Ph.D. 2004. Evolution of Central American cichlid fishes.
Andrew M. Carroll, Ph.D. 2005. The Muscular basis of suction feeding performance in fishes. Andrew died in 2010.
Tim E. Higham, Ph.D. 2006. Functional morphology and mechanics of suction feeding in fishes. Currently, Associate Professor, University of California Riverside.
David C. Collar, Ph.D. 2007. Evolution of morphological and functional diversity in centrarchid fishes. Currently Assistant Professor at Christopher Newport University.
Rose L. Carlson, Ph.D. 2008 Diversification of darters (Teleostei: Percidae).
Dan L. Warren, Ph.D. 2009. Methodological advances in the construction and application of environmental niche models. Senior Scientist, Senckenberg Institute.
Tomomi Takada, M.Sc. 2012.
Christopher H. Martin, Ph.D. 2013. Adaptive radiation in fishes. Currently Assistant Professor, Department of Integrative Biology, University of California, Berkeley.
Matthew McGee, Ph.D. 2014, Currently Assistant Professor at Monash University
Patrick Fuller, M.Sc. 2014
Sarah Longo, Ph.D. 2017, Currently postdoc at Duke University with Sheila Patek
Sarah Friedman, Ph.D. exp 2020
Katherine Corn, Ph.D. exp 2021
Alexus Roberts, Ph.D. exp 2022
Darien Satterfield, Ph.D. exp 2024

I have had at least one undergraduate conducting research in my lab every term since 1991.

Student Committee Service. I have served on numerous graduate student committees. In addition, I was outside reader for a dissertation from University of Leiden (Dr. Jaap de Visser), and on Oct. 27, 2000 I was Opponent for Joakim Hjelm's dissertation at University

of Umeå in Sweden. I was External Examiner for the PhD dissertation of Brent Gurd at Simon Fraiser University in April 2005, and an external committee member for Matthew Travis at Stony Brook, 2006; external committee member in 2011 for PhD students at UCLA, UC Irvine and University of Toronto (2012), for one PhD student at Brown University in 2012, one PhD student at University of Louisiana in 2015, and a PhD student at University of California, Santa Cruz in 2016.

INVITED SEMINARS (Since 1996):

2020: Yale University
2019: Florida Institute of Technology
2017: University of British Columbia, two seminars. Chicago Cichlid Association. Okinawa Institute of Science and Technology, Tufts University (graduate student invited speaker), George Washington University (graduate student invited speaker)
2016. University of California, Berkeley
2015: Florida Institute of Technology, Yale University, University of California, Irvine
2014: Louisiana State University, Michigan State University, Kellogg Biological Station
2013: Claremont Colleges
2012: Southeastern Louisiana University, Brown University, University of Chicago (Sewall Wright Lecturer), American Museum of Natural History, University of Hawaii.
2011: Clemson University, University of Oklahoma (Sutton Lecturer), University of Montana, University of Toronto.
2010: University of Akron, Harvard University
2009: Bodega Marine Laboratory, University of Texas, Austin, Moss Landing Marine Laboratory, University of California, Davis (Ecology & Evolution Seminar Series)
2008: University of Oregon, University of Louisiana Lafayette
2007: Washington State University; College of Charleston (plenary speaker, graduate student colloquium)
2006: University of California, Los Angeles; California State University Sacramento, SUNY Stony Brook.
2005: Florida State University, Florida Institute of Technology, University of California, Irvine.
2004: University of California, Berkeley; Tulane University/ University of New Orleans; Colorado State University.
2003: Texas A&M University, Palau International Coral Reef Center.
2002: University of Michigan.
2001: University of California, Santa Cruz; University of New Hampshire
2000: University of Umeå, Sweden; Scripps Institute of Oceanography; Wake Forest University; Bodega Marine Laboratory
1999: University of California, Berkeley
1998: University of California, Davis; James Cook University
1997: University of Michigan; Queen's University; University of Cincinnati.
1996: University of Florida; Ohio University; Duke University; University of California, Davis

PUBLICATIONS:

Burress, E.D. and P.C. Wainwright. in review. An appraisal of adaptive radiation by cichlid fishes.

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 and S.A. Price. In Press. Reef-associated fishes have more maneuverable body shapes at a macroevolutionary scale. Coral Reefs

Corn, K.A., C.M. Martinez, E.D. Burress and P.C. Wainwright. (submitted Nov 1, 2019, revised 3/13/20) Feeding mode begets functional diversity in percomorph fishes. Evolution

Friedman, S.T., S.A. Price, K.A. Corn, O. Larouche, C.M. Martinez and P.C. Wainwright. In Press. Body shape diversification along the benthic-pelagic axis in marine fishes. Proceedings of the Royal Society, B.

Burress, E. D., C. M. Martinez and P. C. Wainwright. 2020. Decoupled jaws promote trophic diversity in cichlid fishes. Evolution. 74:950-961. DOI: 10.1111/evo.13971

Burress, E. D. and P. C. Wainwright. 2020. A peacock bass functional novelty relaxes a constraint imposed by the classic cichlid pharyngeal jaw innovation. Biological Journal of the Linnean Society 130:382-394. DOI: 10.1093/biolinnean/blaa050

Price, S.A., O. Larouche, S.T. Friedman, K.A. Corn, P.C. Wainwright and 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: DOI: 10.1093/iob/obaa004

Hodge, J.R., F. Santini and P.C. Wainwright. 2020. Color dimorphism in labrid fishes as an adaptation to life on coral reefs. Proceedings of the Royals Society, B. 287:20200167. DOI:10.1098/rspb.2020.0167

Hodge, J.R., F. Santini and P.C. Wainwright. 2020. Correlated evolution of sex allocation and mating system in wrasses and parrotfishes. American Naturalist. 196:57-73. DOI: 10.1086/708764

Martinez, C.M. and P.C. Wainwright. 2019. Extending the geometric approach for studying biomechanical motions. Integrative and Comparative Biology. 59:684-695. DOI: 10.1093/icb/icz115

200. Martinez, C.M., B.H. Kao, J.S. Sparks, P.C. Wainwright. 2019. Pectoral dimorphism is a pervasive feature of skate diversity and offers insight into their evolution. Integrative Organismal Biology 1:1-14. DOI:10.1093/iob/obz012

Price, S.A., S.T. Friedman, K.A. Corn, O. Larouche and P.C. Wainwright. 2019. Building a body shape morphospace of teleostean fishes. Integrative and Comparative Biology. 59:716-730. DOI: 10.1093/icb/icz115

Burress, E.D., M. Tan and P.C. Wainwright. 2019. Head shape modulates diversification of a classic cichlid pharyngeal jaw innovation. American Naturalist 194:693-706. DOI: 10.1086/705392

Friedman, S.T., S.A. Price, C.M. Martinez and P.C. Wainwright. 2019. The influence of size on body shape diversification in Indo-Pacific shore fishes. Evolution. 73: 1873-1884. DOI:org/10.1111/evo.13755

Tavera, J.J. and P.C. Wainwright. 2019. Speciation affects rate of trait divergence in haemulid fishes. Proceedings of the Royals Society, B. 286:20182852 DOI:10.1098/rspb.2018.2852

Burress, E.D. and P.C. Wainwright. 2019. Adaptive radiation in labrid fishes: a central role for functional novelties during 65 My of relentless diversification. Evolution. 73:346-359. DOI:10.1111/evo.13670.

Borstein, S.R., J.A. Fordyce, B.C. O'Meara, P.C. Wainwright and M.D. McGee. 2019. Trophic extremes experience accelerated functional trait evolution across the hyper-diverse global assemblage of coral reef fishes. Nature Ecology & Evolution. 3:191-199. DOI:10.1038/s41559-018-0725-x.

Iglesias, T.L., A. Dornburg, D.L. Warren, P.C. Wainwright, L. Schmitz, and E.P. Economo. 2018. Taking a dim view of life in the ocean: the impact of dim-light vision on neural investment in marine teleosts. Journal of Evolutionary Biology 31:1082-1092.

Martinez, C.M., M.D. McGee, S.R. Borstein and P.C. Wainwright. 2018. Feeding ecology underlies the evolution of cichlid jaw mobility. Evolution 72:1645-1655. doi:10.1111/evo.13518

Longo, S.J., T. Goodearly and P.C. Wainwright. 2018. Power-amplified feeding mechanics in snipefish (*Macroramphosus scolopax*). Proceedings of the Royal Society B. 285:20181078.

190. Hodge, J.R., C. Alim, N.G. Bertrand, W. Lee, S.A. Price, B. Tran and P.C. Wainwright. 2018. Ecology shapes the evolutionary trade-off between predator avoidance and defence in coral reef butterflyfishes. Ecology Letters 21:1033-1042. DOI: 10.1111/ele.12969.

Wainwright, P.C. and S.A. Price. 2018. Innovation and diversity of the feeding mechanism in parrotfishes. Pp. 26-41. In: *The Biology and Ecology of Parrotfishes* (A. S. Hoey, R. M. Bonaldo eds). CRC Press.

Tavera, J., A. Acero and P.C. Wainwright. 2018. Multilocus phylogeny, divergence times, and a major role for the benthic-to-pelagic axis in diversification of grunts (Haemulidae). Molecular Phylogenetics and Evolution 121: 212-223. DOI: 10.1016/j.ympev.2017.12.032

Wainwright P.C. 2018. Perspective: How hummingbirds stay nimble on the wing. Science 359:636-637.

Hernandez, L.P., D. Adriaens, C.H. Martin, P.C. Wainwright, B. Masschaele, and M. Dierick. 2018. A flock of biters: Trophic specializations within a recent species flock of *Cyprinodon* in San Salvador Island, Bahamas. Journal of Anatomy. 232:173-185. DOI:

10.1111/joa.12742

Wainwright, P.C., F. Santini, D.R. Bellwood, D.R. Robertson, L.A. Rocha, M.E. Alfaro. 2018. Phylogenetics and geography of speciation in New World *Halichoeres* wrasses. Molecular Phylogenetics and Evolution. 121:35-45. DOI:10.1016/j.ympev.2017.12.028

Konow, N., S.A. Price, R. Abom, D.R. Bellwood, P.C. Wainwright. 2017. Decoupled diversification dynamics of feeding morphology following a major functional innovation in marine butterflyfishes. Proceedings of the Royal Society, B. 284:20170906; DOI: 10.1098/rspb.2017.0906

Fulton, C.J., P.C. Wainwright, A.S. Hoey and D.R. Bellwood. 2017. Global ecological success of *Thalassoma* fishes in extreme coral reef habitats. Ecology and Evolution. 7: 466-472. DOI: 10.1002/ece3.2624

Dornburg, A., J.P. Townsend, W.R. Brooks, E. Spriggs, R.I. Eytan, J.A. Moore, P.C. Wainwright, A. Lemmon, E.M. Lemmon, T.J. Near. 2017. New insights on the sister lineage of percomorph fishes with an anchored hybrid enrichment dataset. Molecular Phylogenetics and Evolution. 110:27-38.

Wainwright, P.C. and S.J. Longo. 2017. Functional innovations and the conquest of the oceans by acanthomorph fishes. Current Biology. 27:R550-R557.

180. Longo, S.J, B.C. Faircloth, A. Meyer, M.W. Westneat, M.E. Alfaro, P.C. Wainwright. 2017. Phylogenomic analysis of a rapid radiation of misfit fishes (Syngnathiformes) using ultraconserved elements. Molecular Phylogenetics and Evolution. 113:33-48. DOI: 10.1016/j.ympev.2017.05.002

Longo, S. J., M. D. McGee, C. E. Oufiero, T. B. Waltzek and P. C. Wainwright. 2016. Ram, not suction, is the primary axis of suction feeding diversity. Journal of Experimental Biology. 219:119-128.

McGee, M.D., B.C. Faircloth, S.R. Borstein, J. Zheng, C.D. Hulsey, P.C. Wainwright, and M.E. Alfaro. 2016. Replicated divergence in cichlid radiations mirrors a major vertebrate innovation. Proceedings of the Royal Society, series B. 283:Article # 20151413.

Friedman, S.T., Price, S.A., A.S. Hoey and P.C. Wainwright. 2016. Ecomorphological convergence in zooplanktivorous surgeonfishes. Journal of Evolutionary Biology. 29:965-978.

Wainwright, P.C., and S.A. Price. 2016. The impact of organismal innovation on functional and ecological diversification. Integrative and Comparative Biology. 56:479-488. DOI: 10.1093/icb/icw081

Wood, H.M., R.G. Gillespie, C.E. Griswold and P.C. Wainwright. 2015. Why is Madagascar special? The extraordinarily slow adaptive radiation in pelican spiders (Araneae, Archaeidae). Evolution. 69:462-481.

Wainwright, P.C. 2015. News & Views. Perspective: Why are marine adaptive radiations rare in

Hawai'i? Molecular Ecology. 24:523-524.

Wainwright, P.C., M.D. McGee, S.A. Longo and L.P. Hernandez. 2015. Suction feeding in vertebrates: origins, innovations and diversification. Integrative and Comparative Biology. 55:134-145. (doi:10.1093/icb/icv026).

Martin, C.H., J.S. Cutler, J.P. Friel, C.T. Dening, G. Coop, and P.C. Wainwright. 2015. Complex histories of repeated colonization and hybrization cast doubt on the clearest examples of sympatric speciation in the wild. Evolution. 69:1406-1422 (doi:10.1111/evo.12674).

Higham, T.E., W.J. Stewart and P.C. Wainwright. 2015. Turbulence, temperature, and turbidity: The ecomechanics of predator-prey interactions in fishes. Integrative and Comparative Biology. 55:6-20 (doi:10.1093/icb/icv052)

170. Motani, R. and P.C. Wainwright. 2015. How warm is too warm for the life cycle of actinopterygian fishes? Scientific Reports. 5:11597 (doi:10.1038/srep11597).

McGee, M. D., J. W. Reustle, C. E. Oufiero and P. C. Wainwright. 2015. Intermediate kinematics produce inferior feeding performance in a classic case of natural hybridization. American Naturalist. 186:807-814.

Cohn, B. A., S. P. Collin, P. C. Wainwright, L. Schmitz. 2015. Retinal topography maps in R: new tools for the analysis and visualization of spatial retinal data. Journal of Vision. 15:19, 1-10.

Eytan, R. I., B. R. Evans, A. Dornburg, A. R. Lemmon, E. M. Lemmon, P. C. Wainwright and T. J. Near. 2015. Are 100 Enough? Inferring acanthomorph teleost phylogeny using anchored hybrid enrichment. BMC Evolutionary Biology. 15:113. (doi:10.1186/s12862-015-0415-0).

Near, T.J., A. Dornburg, R. C. Harrington, C. Oliveira, T. W. Pietsch, C. E. Thacker, T. P. Satoh, E. Katayama, P. C. Wainwright, J. T. Eastman and J. M. Beaulieu. 2015. Identification of the notothenioid sister lineage illuminates the biogeographic history of an Antarctic adaptive radiation. BMC Evolutionary Biology. 15:109 (doi:10.1186/s12862-015-0362-9).

Price, S.A., T. Claverie, T.J. Near and P.C. Wainwright. 2015. Phylogenetic insights into the history and diversification of fishes on reefs. Coral Reefs. 34:997-1009. (doi 10.1007/s00338-015-1326-7).

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Lewis, S.M. and P.C. Wainwright. 1985. Herbivore abundance and grazing intensity on a Caribbean coral reef. Journal of Experimental Marine Biology and Ecology. 87: 215-228.

<u>CONTRIBUTED ORAL PAPERS SINCE 2010</u>:

2019 Society for Integrative and Comparative Biology, Tampa. Plenary presentation. Three additional co-authored presentations.
2018 Society for Integrative and Comparative Biology, San Francisco. Three co-authored presentations
2017 10th Indo-Pacific Fish Conference, Tahiti. One symposium contribution, one additional co-authored presentation.
2017 Society for Integrative and Comparative Biology, New Orleans. Three co-authored presentations.
2016 International Congress for Vertebrate Morphology, Bethesda. One symposium contribution.

2016 Society for Integrative and Comparative Biology, Portland. One symposium presentation.
2015 Society for Integrative and Comparative Biology, West Palm Beach. One symposium contribution, 5 additional co-authored papers.
2014 American Society of Naturalists, Asilomar. One symposium presentation.
2014 Society for Integrative and Comparative Biology, Austin. Four co-authored papers.
2013 Joint Meetings of Ichthyologists and Herpetologists, Albuquerque. One presentation.
2013 Indo-Pacific Fishes Conference, Okinawa, Japan. One symposium presentation and Co-author on a second paper.
2013 Society for the Study of Evolution, Snow Bird. Co-author on two papers
2013 Society for Integrative and Comparative Biology, San Francisco. Co-author on nine papers
2012 Society for the Study of Evolution, Ottawa. Co-author on five papers.
2012 Society for Integrative and Comparative Biology, Charleston, SC. Co-author on five papers
2011 Joint Meetings of Ichthyologists and Herpetologists, Minneapolis. One paper.
2011 SICB, Seattle. Co-author on five papers, presented one.

SYMPOSIA ORGANIZED SINCE 1991:

1991. Reilly, S. M. and P. C. Wainwright. Ecological Morphology: Integrative Organismal Biology. American Society of Zoologists.

1993. Nishikawa, K. and P.C. Wainwright. Ecology and Evolution of Feeding Systems in Lower Vertebrates. American Society of Ichthyologists and Herpetologists.

2005. Wainwright, P.C., T.J. Near and D.I. Bolnick. Evolution and Ecology of Centrarchidae. American Society of Ichthyologists and Herpetologists, Tampa.

2015. Wainwright, PC. And T. E. Higham. Recent advances in the Biomechanics of Suction Feeding. Society for Integrative and Comparative Biology, West Palm Beach.

RESEARCH INTERESTS:

I am broadly interested in the evolution of organismal design. I focus on the feeding mechanisms of teleost fishes as a model system in the evolution of muscle-skeleton systems and the behaviors they are used to perform. I seek to identify general patterns, repeating themes, and principles of how the complex muscle-skeleton system of fishes is modified during evolution to produce the diversity we see in function and ecology. My general strategy is to contrast patterns of modifications at several levels of organization in the feeding mechanism across members of a tight phylogenetic group. We use electromyography to document patterns of muscle use, high speed video to document movement of skeletal elements during prey capture, catheter tipped pressure transducers to measure pressure inside the oral cavity during suction feeding, and sonomicrometry to study the movement of structures inside the head that cannot be seen in external view.