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Google Scholar Metrics

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Publications

- 75) Ehemann, N., A. Meyer, and **C.D. Hulsey**. 2024. Morphological description of spontaneous pelvic fin loss in Neotropical cichlid fish. *Journal of Morphology*. 285: e21663. DOI: [10.1002/jmor.21663](https://doi.org/10.1002/jmor.21663)
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- 68) Xiong, P., **C.D. Hulsey**, C. Fruciano, W.Y. Wong, A. Nater, A.F. Kautt, O. Simakov, M. Pippel, S. Kuraku, A. Meyer, and P. Franchini. 2021. The comparative genomic landscape of adaptive radiation in crater lake cichlid fishes. *Molecular Ecology*. 30: 955-972. DOI: [10.1111/mec.15774](https://doi.org/10.1111/mec.15774)
- 67) Kautt, A.F., C.F. Kratochwil, C.F., A. Nater, G. Machado-Schiaffino, M. Olave, F. Henning, J. Torres-Dowdall, A. Härer, **C.D. Hulsey**, P. Franchini, M. Pippel, G. Myers, and A. Meyer. 2020. Contrasting signatures of genomic divergence in rapidly speciating crater lake cichlid fishes. *Nature*. 588: 106-111. DOI: [10.1038/s41586-020-2845-0](https://doi.org/10.1038/s41586-020-2845-0)
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- 4) **Hulsey, C.D.** and P.C. Wainwright. 2002. Projecting mechanics into morphospace: disparity in the feeding system of Labrid Fish. *Proceedings of the Royal Society Series B*. 269: 317-326.
- 3) Wainwright, P.C., L.A. Ferry-Graham, T.B. Waltzek, A.M. Carroll, **C.D. Hulsey**, and J.R. Grubich. 2001. Examination of ram and suction feeding performance in cichlid fishes. *Journal of Experimental Biology*. 204: 3039-3051.
- 2) Ferry-Graham, L.A., P.C. Wainwright, **C.D. Hulsey**, and D.R. Bellwood. 2001. Evolution and mechanics of long jaws in Butterflyfishes (Family Chaetodontidae). *Journal of Morphology*. 248: 120-143. DOI: [10.1002/jmor.1024](https://doi.org/10.1002/jmor.1024)
- 1) Vargo, E.L. and **C.D. Hulsey**. 2000. Multiple glandular origins of queen pheromones in the fire ant *Solenopsis invicta*. *Journal of Insect Physiology*. 46: 1151-1159. DOI: [10.1016/s0022-1910\(99\)00226-7](https://doi.org/10.1016/s0022-1910(99)00226-7)

Publications (submitted)

- 76) Ehemann, N., P. Franchini, A. Meyer, and **C.D. Hulsey**. 2024. Meristic co-evolution and genomic co-localization of lateral line scales and vertebrae in Central American cichlid fishes. *Ecology and Evolution*. In review

Synergistic Activities

Etnier Ichthyological Collection: As curator of this fish collection, I contributed to the growth and maintenance of this natural history collection that governmental and non-governmental groups in the Southeastern United States utilize extensively. During this time, we completed the digitization of the collection and made it web-accessible. Additionally, I oversaw the creation and building of a \$50,000 endowment for this collection to contribute to its long-term maintenance and improvement.

Symposium "Biology at the Cusp: Teeth as a Model Phenotype for Integrating Developmental Genomics, Biomechanics, and Ecology": I co-organized with Gareth Fraser this symposium at the Society for Comparative and Integrative Biology meeting in Austin in 2020 that discussed the integrative biology of teeth.

Synergistic Activities (continued)

Symposium "The Molecular Basis of Convergent Evolution": I co-organized with Marie Semon and Yoel Stuart a symposium at the Second Joint Conference on Evolutionary Biology in Montpellier, France in 2018. This symposium centered around the genomic underpinnings of the gains and loss of adaptive traits.

Nimbios Suction Feeding Working Group: In collaboration with Peter Wainwright and Steven Day, I helped to organize a working group at the U.S. National Institute of Mathematical and Biological Sciences that examined the biomechanics of the suction feeding apparatus in vertebrates.

Symposium "Genomics and vertebrate adaptive radiation: a celebration of the first cichlid genome": I co-organized with Suzy Renn a symposium at the Society for Comparative and Integrative Biology meeting in Boston in 2010 that addressed the promise and utility of the first fully sequenced cichlid genome.

Presentations at Professional Meetings (2015-2022)

- Hulsey, C.D.** 2022. Genomics and convergent evolution of premaxilla morphology during cichlid trophic adaptation. Cichlid Science. Cambridge, UK.
- Hulsey, C.D.** 2022. Genomics and convergent evolution of premaxilla morphology during cichlid trophic adaptation. Genomics of Convergence Symposium. Konstanz, Germany.
- Masonick, P., A. Meyer, **C.D. Hulsey**. 2022. Phylogenomics and the evolution of hypertrophied lips in Lake Malawi cichlid fishes. Genomics of Convergence Symposium. Konstanz, Germany.
- Masonick, P., A. Meyer, **C.D. Hulsey**. 2021. Phylogenomics and the evolution of hypertrophied lips in Lake Malawi cichlid fishes. Evolution Meetings, Virtual Conference.
- Masonick, P., A. Meyer, **C.D. Hulsey**. 2021. Phylogenomics and the evolution of hypertrophied lips in Lake Malawi cichlid fishes. DFG Taxonomic Kickoff Meeting, Virtual Conference.
- Hulsey, C.D.** 2020. The evolutionary developmental genetics of vertebrate tooth size. Society for Integrative and Comparative Biology, Austin, TX, USA.
- Karagic, N., A. Meyer, **C.D. Hulsey**. 2020. Plasticity of vertebrate dentitions. Society for Integrative and Comparative Biology, Austin, TX, USA.
- Hulsey, C.D.** 2019. Pleiotropic jaw morphology links the evolution of mechanical modularity and feeding convergence in Lake Malawi cichlids. International Conference of Vertebrate Morphology, Prague, Czech Republic.
- Hulsey, C.D.** 2018. Phylogenomics of Lake Malawi cichlid fish relationships: the evolution of markers from mitochondrial genes, to targeted enrichment, to whole genomes. Pan-African Fish and Fisheries Conference, Mangochi, Malawi.
- Hulsey, C.D.** 2018. Pleiotropic jaw morphology links the evolution of mechanical modularity and feeding convergence in Lake Malawi cichlids. European Society for Evolutionary Biology, Montpellier, France.

Presentations at Professional Meetings (2015-2022 continued)

- Hulsey, C.D.** 2018. Phylogenomics of Lake Malawi cichlid fish relationships. DFG SPP Taxonomics 2nd Annual Meeting, Montpellier, France.
- Hulsey, C.D.** and A. Meyer. 2018. The genomic architecture of a key innovation and evolution of dental divergence in East African cichlid fishes. Society for Integrative and Comparative Biology. San Francisco, CA, USA.
- Hulsey, C.D.**, G. Machado-Schiaffino, L. Keicher, D. Ellis-Soto, F. Henning, and A. Meyer. 2017. Genomic architecture of dental divergence in East African cichlid fishes. Cichlid Science. Prague, Czech Republic.
- Gerwin, J., **C.D. Hulsey**, A. Meyer, C. Kratochwil. 2017. Repeated evolution of adaptive color patterns in cichlid fish. European Society for Evolutionary Biology. Groningen, Netherlands.
- Hulsey, C.D.** and A. Meyer. 2016. Evolutionary consequences of modularity in vertebrate dentitions at multiple levels of biological design. Society for Integrative and Comparative Biology. Portland, OR, USA.
- Hulsey, C.D.**, Bell, K.L, C.C. Nice, F.J. García de Leon, and A. Meyer. 2015. Genetics of jaw divergence in a trophically polymorphic cichlid fish. Society for Molecular Biology and Evolution. Vienna, Austria.

Invited Seminars

- 2023** Department of Biological Sciences, University of Texas-El Paso, USA
- 2022** Axel Meyer Lab, University of Konstanz, Germany
- 2021** Earth Institute Coffee Morning, University College Dublin, Dublin, Ireland
School of Biology and Environmental Science, University College Dublin, SBES
Thursday Lunch Seminar Series, Dublin, Ireland
- 2020** Department of Biology, University of Antwerp, Antwerp, Belgium
Department of Biology, Christian-Albrechts-Universität zu Kiel, Kiel, Germany
School of Biological Sciences, University of Bristol, Bristol, UK
School of Biology and Environmental Science, University College Dublin, Dublin, Ireland
- 2019** Senckenberg Research Institute and Natural History Museum, Frankfurt, Germany
Senckenberg Natural History Collections, Museum of Zoology, Dresden, Germany
University of Oviedo, Molecular Genetics Seminar, Oviedo, Spain
- 2018** European Society for Evolutionary Biology. The macroevolutionary dynamics of form-function relationships symposium, Montpellier, France
DFG Taxonomics Annual Meeting, Montpellier, France
- 2017** University of Hamburg, Center of Natural History Seminar Series, Hamburg, Germany
Cichlid Science Meeting. Genomic Architecture of Dental Divergence in East African Cichlid Fishes. Cichlid Science. Prague, Czech Republic
- 2016** A Bigger Picture: Organismal Function at the Nexus of Development, Ecology, and Evolution. Society for Integrative and Comparative Biology Symposium. Portland, Oregon, USA

Invited Seminars (continued)

- 2015** Department of Animal and Plant Sciences Seminar Series. Sheffield, United Kingdom
Aquatic Research Institute Seminar Series (EAWAG). Lucerne, Switzerland
- 2015** Department of Biology Seminar Series. University of Konstanz, Germany
- 2013** Inter-University Institute for Marine Sciences Eilat, Israel
Ecology and Evolution Seminar Series. University of Tennessee-Knoxville, USA
- 2012** Fish and Wildlife Seminar Series. University of Tennessee-Knoxville, USA
- 2011** Fishhead seminar series. Oak Ridge National Laboratories, USA
- 2010** Evolutionary Morphology Seminar Series. University of Chicago, USA
- 2009** Young Investigators in Aquatic and Fisheries Science. University of Washington, USA
Ecology and Evolutionary Biology Seminar Series. Brown University, USA
Biology Department Seminar Series Case Western University, USA
- 2007** Ecology and Evolution Seminar Series. Yale University, USA
Department of Biology. Florida State University, USA
Department of Zoology. University of Florida, USA
Ecology and Evolution Seminar Series. University of Tennessee-Knoxville, USA
- 2006** Evolutionary Biology Series. Konstanz University, Germany
- 2005** Department of Biology Seminar Series. Clemson University, USA
- 2004** Ecology and Evolution Seminar Series. University of New Orleans, USA
Ecology and Evolution Seminar Series. University of Tennessee-Knoxville, USA
Population Biology Seminar Series. University of California-Davis, USA
Biology Departmental Seminar. Texas State University-San Marcos, USA
- 2003** Museum of Vertebrate Zoology and Evolutionary Biology Seminar Series. University of California-Berkeley, USA

Postdoctoral Advisees

Nicolas Ehemann (2022-current) Konstanz University, Germany
Paul Masonick (2021-2022) Postdoc at University of California-Riverside
Mark Scherz (2019-2020) Curator Natural History Museum of Denmark, Denmark
Peiwen Xiong (2019-2020) Postdoc at Hunan Childrens Hospital, China
Andreas Härer (2018-2019) Postdoc at University of California-San Diego, USA
Ryan Martin (2012-2013) Assistant Professor at Case Western University, USA
Benjamin Keck (2011-2013) Lecturer at the University of Tennessee, USA
Hugo Alamillo (2010-2011) Assistant Professor at Seattle Community College, USA

Graduate Student Advisees

Nidal Karagic (PhD 2022) Dissertation: "Evolutionary developmental genetics of cichlid jaws and teeth"
Anne Van Humbeeck (MS 2020) Masters: "Modularity of tooth gene expression in cichlid jaws"

Graduate Student Advisees (continued)

Sarah Weis (MS 2020) Masters: "Tooth gene expression in cichlid fish pharyngeal jaws"

Phillip Hollingsworth (PhD 2014) Dissertation: "Evolution of North American minnows along a benthic/limnetic axis"

Maxwell Rupp (MS 2014) Masters: "Pectoral fin locomotion in Lake Malawi cichlid fishes"

Morgan Douglas (MS 2013) Masters: "Evolution of pelagic larval duration in freshwater darter fishes"

Undergraduate Student Advisees/Researchers

Kevin Coogan (Ireland), Ceili Cardiff (Ireland), Fatima Elbaruni (Ireland), Joanna Stier (Germany), Patrick Coleman (Germany), Marius Schön (Germany), Antonia Keller (Germany), Johannes Windorfer (Germany), Patrick Beller (Germany), Denise Jansen (Germany), Laurentz Schuhknecht (Germany), Katie Watson (USA), Callie Grabenstein (USA), Meredith Leigh (USA), Benjamin Allen (USA), Denise Kendall (USA), Barry Hedgespeth (USA), Donnie Pickel (USA), Bradley Pruitt (USA), Iman Ferdjallah (USA), Ryan Umphenour (USA), Meryl Mims (USA), Yara Sanchez-Johnson (Mexico)

Graduate Classes

Lab and Lecture in Evolutionary Molecular Biology – 5 Semesters

Lecture Macroevolution and Comparative Methods – 3 Semesters

Evolution/Development Journal Club – 7 Semesters

Seminar in Speciation and Adaptation – 4 Semesters

Seminar in Evolution of Genomic Architecture – 1 Semester

Seminar in Human Evolutionary Genomics – 1 Semester

Genetics for Environmental Science – 1 Semester

Undergraduate Classes

Lab and Lecture in Ichthyology - 4 Semesters

Lab and Lecture in Vertebrate Biology – 3 Semesters

Freshman Seminar in Biology of the Hunger Games – 1 Semester

Evolution Lecture – 6 Semesters

Developmental Biology – 2 Semesters

Fundamentals of Biology – 1 Semester

Classes Taught as Graduate Teaching Assistant

Ecology

Herpetology

Submitted Grants

\$1000 Genetic Characterization of Native Trout from the Sierra Madre Occidental in Mexico. PIs: A.C. Martínez, **C.D. Hulsey**, F.J. García de León. Desert Fishes Council. 2022.

Funded Grants

- €444,474 VitaDevo: Angling for a New Model of Osteoimmunology-Environmental Developmental Genetics of Vitamin D in Atlantic Salmon. PI: **C.D. Hulsey** in collaboration with P. McGinnity. Science Foundation Ireland. 2022-2025
- €12,132 Transcriptomics, Anatomy, and Vitamin D in Atlantic Salmon PI: **C.D. Hulsey** in collaboration with P. McGinnity. University College Dublin Seed Funding - Career Development Award. 2022.
- €355,550 Genomics of Hybridization and Species Delimitation in Cichlid Fishes PIs: **C.D. Hulsey** and A. Meyer. Deutsche Forschungsgemeinschaft (German National Science Foundation) SPP 1991 Taxon-Omics: New Approaches for Discovering and Naming Biodiversity. 2020-2023.
- €234,200 The Genomic Architecture of Convergent Snail Crushing Jaws in Cichlid Fishes PI: **C.D. Hulsey**, Deutsche Forschungsgemeinschaft (German National Science Foundation). 2017-2020.
- €358,750 Species Delimitation in East African Cichlid Fish Adaptive Radiations. PIs: A. Meyer and **C.D. Hulsey**. Deutsche Forschungsgemeinschaft (German National Science Foundation) SPP 1991 Taxon-Omics: New Approaches for Discovering and Naming Biodiversity. 2017-2020.
- \$19,250 Swimming Tunnel System. PIs: **C.D. Hulsey** and A. Meyer. University of Konstanz Equipment Grant. 2015-2016.
- \$172,000 Evolution of Functional Novelty. PIs: **C.D. Hulsey** and R. Holzman. US-Israel Bi-National Science Foundation. 2012-2016.
- \$19,221 Phenotypic Plasticity and Evolution in the Pharyngeal Jaw Apparatus. PIs: **C.D. Hulsey** and S.F. Clemmensen. U.S. National Science Foundation. 2013-2014.
- \$161,600 Initiative for Quaternary Paleoclimate Research. PIs: Horn, S., L. Zhenghua, D. Finkelstein, H.D. Grissino-Mayer, L.D. McKay, L. Yingkui, D.G. Anderson, and **C.D. Hulsey**. University of Tennessee Organized Research Unit Funding. 2010-2013.
- \$8500 Light Sources for Vertebrate Biology Classes. PI: **Hulsey, C.D.** University of Tennessee ARAA stimulus funds. 2009.
- \$166,555 Evolutionary Plasticity: Is Remodeling Key to Cichlid Pharyngeal Jaw Diversification? PI: **C.D. Hulsey**. U.S. National Science Foundation. 2009-2011.
- \$15500 Evolution of a Polymorphic Cichlid. PI: **C.D. Hulsey**. National Geographic Research Grant. 2003-2004.
- \$11387 Evolution of a Polymorphic Cichlid in Mexico. PI: **C.D. Hulsey**. University of California UCMexus. 2002-2004.
- \$110,000 Predoctoral Fellowship. U.S. National Science Foundation. 1998-2001.

\$2,204,667 Total Funding Awarded