

C. DARRIN HULSEY
University College Dublin
School of Biology and Environmental Science
Science Centre West
Belfield Dublin 4, Ireland

Degrees Awarded

Ph.D. Population Biology
B.S. Zoology
B.A. Plan II (Humanities)

University of California-Davis 2004
University of Texas-Austin 1997
University of Texas-Austin 1997

Place of Birth

Orange, Texas, USA

Nationality

USA

Email

darrin.hulsey1@ucd.ie

Phone

+353 (089) 607 3981

Website

<http://darrinhulsey.com>

Spoken Languages

English (Native), Spanish (Conversational), German (Functional)

Programming Languages

R (Advanced), Perl (Functional)

Orchid ID

0000-0002-9653-6728

Google Scholar Metrics

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Publications

- 80) **Hulsey, C.D.**, P. Franchini, P. Masonick, A.F. Kautt, G. Machado-Schiaffino, M. Pippel, F.J. García-de León, G. Myers, and A. Meyer. 2026. Divergence at the *IRX* gene cluster underlies extreme trophic polymorphism in a cichlid fish (*Herichthys minckleyi*). *Communications Biology*. (in press). DOI:
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- 7) **Hulsey, C.D.**, D.A. Hendrickson, and F.J. García de León. 2005. Trophic morphology, feeding performance, and prey use in the polymorphic fish *Herichthys minckleyi*. *Evolutionary Ecology Research*. 7: 303-324.
- 6) **Hulsey, C.D.**, F.J. García de León, Y. Sanchez-Johnson, D.A. Hendrickson, and T.J. Near. 2004. Temporal diversification of Mesoamerican cichlid fishes across a major biogeographic boundary. *Molecular Phylogenetics and Evolution*. 31: 754-764. DOI: [10.1016/j.ympev.2003.08.024](https://doi.org/10.1016/j.ympev.2003.08.024)
- 5) Bolnick, D.I., R. Svanbäck, J.A. Fordyce, L.H. Yang, J.M. Davis, **C.D. Hulsey**, and M.L. Forister. 2003. The ecology of individuals: incidence and implications of individual specialization. *American Naturalist*. 161: 1-28. (**Mercer Award-Ecological Society of America for best ecological research paper by young researchers. 2005). DOI: [10.1086/343878](https://doi.org/10.1086/343878)
- 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)

- Taylor, L.D., C.E. Gorman, F. Egan, N.M. Ruane, P. McGinnity, and **C.D. Hulsey**. 2026. Impact of vitamin D on gene expression in Atlantic salmon skin and potential immunomodulation against salmon louse infection. *PLoS One*. (submitted).
- Gorman, C.E., Taylor, L.D., F. Egan, F.J. Alarcón, P. McGinnity, and **C.D. Hulsey**. 2026. A sustainable seaweed win-win: Dietary fortification with *Alaria esculenta* enhances Atlantic salmon muscle growth and modulates gene expression. *Aquaculture Reports*. (in review).
- Gorman, C.E., N.M. Ruane, F. Egan, P. McGinnity, and **C.D. Hulsey**. 2026. Insights into an emerging model for vitamin D and ocular biology: Early-life supplementation alters gene expression and isoform usage in the Atlantic salmon eye. *Journal of Experimental Zoology Part A*. (submitted).
- Ehemann, N., A. Meyer, and **C.D. Hulsey**. 2026. Midas cichlid fish axial skeletal divergence associated with body depth and micro-habitat adaptation. *Biological Journal of the Linnean Society*. (in revision).

Synergistic Activities

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.

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 "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 (2020-2025)

- C.D. Hulsey**, C.E. Gorman, P. McGinnity. 2025. Domestication induced dental divergence in Atlantic salmon. International Conference of Vertebrate Morphology, Online.
- Ehemann, N., A. Meyer, **C.D. Hulsey**. 2025. Meristic co-evolution and genomic co-localization of the lateral line and vertebrae in Central American cichlid fishes. International Conference of Vertebrate Morphology, Online.
- Gorman, C.E., P. McGinnity, **C.D. Hulsey**. 2025. Vitamin D elicits tissue-specific isoform expression in Atlantic salmon muscles. International Conference of Vertebrate Morphology, Online.
- Taylor, L.D., P. McGinnity, **C.D. Hulsey**. 2025. DICE MicroCT imaging of renal morphology following PKD infection in Irish and Norwegian Atlantic salmon. International Conference of Vertebrate Morphology, Online.
- Ehemann, N., A. Meyer, **C.D. Hulsey**. 2024. Internal axial skeleton meristics and linear morphometrics associated with body depth and species diagnoses in Midas cichlid fishes. Taxonomics Annual Meeting, Bonn, Germany.
- Ehemann, N., A. Meyer, **C.D. Hulsey**. 2023. Meristic co-evolution and genomic co-localization of the lateral line and vertebrae in Central American cichlid fishes. Taxonomics Annual Meeting, Hamburg, Germany.
- Hulsey, C.D.** 2022. *Herichthys cyanoguttatus* high-quality genome & genome level introgression into *H. minckleyi*. Desert Fishes Council, St. George, Utah, USA.
- 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.

Invited Seminars

- 2025** Evoluzione Biologica, Università degli Studi della Tuscia, Viterbo, Italy
X-ray Tomography Workshop, University College Dublin, Dublin, Ireland
Africa, Ireland and UCD: Working together to address global sustainability challenges, University College Dublin, Dublin, Ireland
- 2024** Evoluzione Biologica, Università degli Studi della Tuscia, Viterbo, Italy
- 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
- 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

Invited Seminars (continued)

- 2007** 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

- Courtney Gorman (2023-current) University College Dublin, Ireland
- Nicolas Ehemann (2022-2024) Konstanz University, Germany
- Paul Masonick (2021-2022) Postdoc at University of California-Riverside, USA
- 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) Asst. Professor at Seattle Community College, USA

PhD Student Advisees

- Lewis Taylor (PhD current) Dissertation: "Immunity in *Salmo salar*"
- Nidal Karagic (PhD 2022) Dissertation: "Evolutionary developmental genetics of cichlid jaws and teeth"
- Phillip Hollingsworth (PhD 2014) Dissertation: "Evolution of North American minnows along a benthic/limnetic axis"

Masters Student Advisees

- Blythe Beynon (MS 2025) Masters: "Evolution of hybridization in Salmonid fishes"
- Avani Ashwin Hegde (MS 2025) Masters: "Genomic basis of divergence in cichlid fish vertebrae counts of Lake Malawi through QTL mapping"
- Jason Zlotila (MS 2023) Masters: "Jaw-specific alternative transcription of tooth genes of cichlid fishes"
- Anne Van Humbeeck (MS 2020) Masters: "Modularity of tooth gene expression in cichlid jaws"
- Sarah Weis (MS 2020) Masters: "Tooth gene expression in cichlid fish pharyngeal jaws"
- 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

Aoibheann McAndrew (Ireland), Grace Marren (Ireland), Anna Tarpey (Ireland), Daniel Lynch (Ireland), 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 – 9 Semesters
Developmental Biology – 4 Semesters
Fundamentals of Biology – 5 Semesters

Classes Taught as Graduate Teaching Assistant

Ecology
Herpetology

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.

Funded Grants (continued)

- €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