

Stacy C. Farina, Ph.D.
curriculum vitae

Professional Appointments

- 2018 – Present **Assistant Professor of Biology, Howard University**
Tenure-track appointment through the Department of Biology
- 2018 **Part-Time Lecturer, Northeastern University**
Appointment through the Department of Biology to teach BIOL 1117
Integrated Anatomy and Physiology 1 and BIOL 1118 (A&P 1 laboratory)
for the spring 2018 semester
- 2015 – 2018 **Postdoctoral Fellow, Harvard University**
Museum of Comparative Zoology and Department of Organismic and
Evolutionary Biology, Faculty mentor: Dr. George V. Lauder
Supported by NSF Postdoctoral Fellowship (DBI-1523836, 2015-17)
- 2016 – 2018 **Adjunct Faculty, Shoals Marine Laboratory**
Appointment through the School of Marine Science and Ocean
Engineering at the University of New Hampshire each summer to teach a
two-week field course, *Anatomy and Function of Marine Vertebrates*

Education

- 2010 – 2015 Ph.D., Evolutionary Biology, Cornell University, Ithaca, NY.
Committee Chair: Dr. William E. Bemis
- 2006 – 2010 B.S., Marine and Freshwater Biology (Minor: Genetics) University of New
Hampshire, Durham, NH. University Honors Program, *summa cum laude*

Publications

Peer-reviewed Publications *Student authors

1. Arnette, S.*, Saffarian, J.*, Ferry, L. and **Farina, S.** 2023. Effect of parabranchial position on ventilatory pressures in the Pacific spiny dogfish (*Squalus suckleyi*). *Zoology*, p.126106 (Manuscript accepted and published online by journal on July 28, 2023)
 - a. Farina author contribution: I am on Arnette's PhD committee and was the lead mentor for this project. Arnette and I developed the project, collected the data, and wrote the manuscript together.
2. Amacker, K*, **Farina, SC.** 2022. Functional morphology of the urohyal shunt for symmetrical and asymmetrical ventilation in the flatfish, *Isopsetta isolepis*. *Integrative and Comparative Biology*, 62(4), pp.897-907.

- a. Farina author contribution: Amacker is my PhD student, and we contributed equally to the experiments, data analysis, and manuscript writing.
3. Rice, AN, **Farina, SC**, Makowski, AJ, Kaatz, IM, Lobel, PS, Bemis, WE and Bass, AH. 2022. Evolutionary patterns in sound production across fishes. *Ichthyology & Herpetology*, 110(1), pp.1-12. (won Best 2022 Paper in Ichthyology Award from *Ichthyology & Herpetology*)
 - a. Farina author contribution: I conducted statistical analysis and contributed substantially to the manuscript writing.
4. Erickson, OA, Cole, RB, Isaacs, JM, Alvarez-Clare, S, Arnold, J, Augustus-Wallace, A, Ayoob, JC, Berkowitz, A, Branchaw, J, Burgio, KR, Cannon, C.H., ... **Farina, SC**, [25 additional authors], Dolan, EL. 2022. “How do we do this at a distance?!” A descriptive study of remote undergraduate research programs during COVID-19. *CBE—Life Sciences Education*, 21(1), p.ar1.
 - a. Farina author contribution: I consulted with the lead author and provided data on how we ran our NSF REU program during covid-19.
5. Evans, KM, Larouche, O, Watson, SJ*, **Farina, SC**, Habegger, ML, and Friedman, M. 2021. Integration drives rapid phenotypic evolution in flatfishes. *Proceedings of the National Academy of Sciences*, 118(18).
 - a. Farina author contribution: I assisted with mentoring undergraduate co-author Watson and assisted with manuscript writing. Lead author Evans is junior faculty at Rice University.
6. Higham, TE, Ferry, LA, Schmitz, L, Irschick, DJ, Starko, S, Anderson, PS, Bergmann, PJ, Jamniczky, HA, Monteiro, LR, Navon, D, Messier, J ... **Farina, SC**, [12 additional authors]. 2021. Linking ecomechanical models and functional traits to understand phenotypic diversity. *Trends in Ecology & Evolution*, 36(9), pp.860-873.
 - a. Farina author contribution: Assisted with the development of ideas presented in this paper during and after an NSF workshop on phenotypic complexity.
7. Gerringer, ME, Dias, AS*, von Hagel, AA*, Orr JW, Summers, AP, and **Farina SC**. 2021. Habitat influences skeletal morphology and density in the snailfishes (Family Liparidae). *Frontiers in Zoology* 18(1):1-22.
 - a. Farina author contribution: Developed and collected substantial data for the project; Mentored postdoctoral fellow Gerringer as she completed the project.
8. Ohrenberger, JA*, Bolker, JA, and **Farina, SC**. 2020. Observation of Abundant Larval Arctic Shanny (*Stichaeus punctatus*) in the Western North Atlantic, Found in the Waters of the Isles of Shoals, Maine, USA. *Copeia*, 108(1), pp.163-165.
 - a. Farina author contribution: Ohrenberger was my undergraduate mentee, we contributed data collection, data analysis, and manuscript writing.
9. **Farina, SC**, ML Knope, KA Corn*, AP Summers, WE Bemis. 2019. Functional coupling in the evolution of suction feeding and gill ventilation of sculpins (Perciformes: Cottoidei). *Integrative and Comparative Biology* 59: 394-409 DOI: 10.1093/icb/icz022.

- a. Farina author contribution: Developed projected, completed all analyses, and wrote the manuscript with input from co-authors.
10. Pos, KM*, **SC Farina**, MA Kolmann, NJ Gidmark. 2019 Pharyngeal jaws converge by similar means, not to similar ends, when minnows (Cypriniformes: Leuciscidae) adapt to new dietary niches. *Integrative and Comparative Biology* 59: 432–442 DOI: 10.1093/icb/icz090.
 - a. Farina author contribution: Mentored lead author Pos, conducted several of the statistical analyses, and contributed substantially to the writing of the manuscript.
 11. Long NP*, **SC Farina**. 2019. Enormous gill chambers of deep-sea coffinfishes (Lophiiformes: Chaunacidae) support unique ventilatory specialisations such as breath holding and extreme inflation. *Journal of Fish Biology* 95:502-509 DOI: 10.1111/jfb.14003
 - a. Farina author contribution: Long was my undergraduate mentee, we contributed data collection, data analysis, and manuscript writing.
 12. Bressman, NR*, AC Gibb, **SC Farina**. 2018. A walking behavior generates functional overland movements in the tidepool sculpin, *Oligocottus maculosus*. *Zoology* 131:20-28.
 13. Roberts, AS*, **SC Farina**, RR Goforth, NJ Gidmark. 2018. Evolution of lever mechanics in the lower jaw adduction system of sculpins and relatives (Perciformes: Cottoidei). *Zoology* 129, 59-65.
 14. Corn, KA*, **SC Farina**, AC Gibb, AP Summers. 2018. Scaling of Burial Mechanics in the English Sole, *Parophrys vetulus*. *Journal of Experimental Biology* jeb.176131
 15. **Farina, SC**, WE Bemis. 2016. Functional morphology of gill ventilation in the Goosefish, *Lophius americanus* (Lophiiformes: Lophiidae). *Zoology* 119:207-215
 16. Bressman, NR*, **SC Farina**, AC Gibb. 2016. Look before you leap: Visual navigation and terrestrial locomotion of the intertidal killifish *Fundulus heteroclitus*. *Journal of Experimental Zoology Part A: Ecological Genetics and Physiology* 325:57-64
 17. Corn, KA*, **SC Farina**, J Brash, AP Summers. 2016. Modelling tooth-prey interactions in sharks - the importance of dynamic testing. *Royal Society Open Science* 3:160141.
 18. **Farina, SC**, WE Bemis, TJ Near. 2015. Evolution of the branchiostegal membrane and restricted gill openings in actinopterygian fishes. *Journal of Morphology* 276:681-694
 19. Gough, WT*, **SC Farina**, FE Fish. 2015. Aquatic burst locomotion by hydroplaning and paddling in common eiders (*Somateria mollissima*). *Journal of Experimental Biology* 218:1632-1638
 20. McKee, A*, I MacDonald, **SC Farina**, AP Summers. 2015. Undulation frequency affects burial performance in living and model flatfishes. *Zoology* 119:75-80

Other Publications

1. **Farina, SC**, Kane, EA and Hernandez, LP. 2019. Multifunctional structures and multistructural functions: Integration in the evolution of biomechanical systems. *Integrative and comparative biology*, 59(2), pp.338-345.
2. **Farina, SC**, AP Summers. 2015. Biomechanics: Boxed up and ready to go. *Nature* 517:274-275.
3. Walsh, ML, EA Fairchild, N Rennels, **SC Farina**, WH Howell, R Mercaldo- Allen, C Kuropat. 2009. Rearing Diets for Winter Flounder Optimize Weaning Success in Hatchery, Wild. *Global Aquaculture Advocate*. May/June. 48-50.

Grants and Awards

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|-------------|---|
| 2020 – 2023 | NSF HBCU-UP Catalyst Project: Evolution and biomechanics of multifunctional structures (HRD-2000268 ; PI: SC Farina, Award: \$199,992) |
| 2020 – 2023 | NSF HBCU-UP Targeted Infusion Project: Inspiring, Engaging and Retaining Underrepresented Students in Computing Research and the Emerging Field of Data Science (HRD-2011933 ; PI: CM Lee, Co-PIs: SC Farina, S Teng, A Duttaroy, Award: \$400,000) |
| 2019 – 2022 | NSF REU Site: Integrative Biology and Ecology of Marine Organisms and Their Environment. (DBI-1852096 ; PI: Summers; Co-PI: Farina, Award: \$394,765) |
| 2015 – 2017 | NSF Postdoctoral Research Fellowship in Biology (DBI-1523836 , PI: SC Farina, Award: \$138,000) |
| 2013 – 2015 | NSF Doctoral Dissertation Improvement Grant (DEB-1310812 , PIs: WE Bemis and SC Farina, Award: \$20,024) |
| 2013 – 2014 | Stephen and Ruth Wainwright Graduate Research Award (FHL) |
| 2013 | George M. Hughes SEB 2013 Symposium Contributor |
| 2013 | Sigma Xi Cornell Chapter – Research Grant |
| 2012 | Teaching Award – Stipend supplement from the Laboratory of Ornithology in recognition for excellence as a First-Year Writing Seminar instructor |
| 2011 | Edward C. Raney Fund Award – ASIH Research Grant |
| 2008 – 2010 | NOAA Holling’s Undergraduate Scholarship |

Teaching and Advising

Howard University – Assistant Professor (August 2018 – Present)

BIOL 102 – General Biology II
BIOL 252 – Comparative Anatomy of Vertebrates
BIOL 216 – Honors Orientation
BIOL 494 – Senior Seminar
BIOL/G 302/705 – Organismal Biomechanics
BIOG 200 Biological Writing for Graduate Students

Northeastern University – Lecturer (Spring 2018)

BIOL 1117 Integrated Anatomy and Physiology 1
BIOL 1118 Integrated Anatomy and Physiology 1 Laboratory

Shoals Marine Laboratory – Faculty (University of New Hampshire, 2016 – 2018)

BIOSM3210/MEFB754 Anatomy and Function of Marine Vertebrates

Harvard University – Teaching Fellow (January 2018 – Present)

OEB 130 Biology of Fishes

Cornell University – First-Year Writing Seminar Instructor of Record (2012)

BIOEE1640 Exploring Form & Function in Vertebrates (Fall 2012)

Friday Harbor Laboratories – Guest Instructor for CORALS program (2017)

Cornell Ocean Research Apprenticeship for Lynch Scholars (Spring 2017)

Cornell University – Teaching Assistant (2010 – 2015)

BIOEE1780 Evolutionary Biology & Diversity (Fall 2010, 2011, 2013 (Head TA))
BIOEE2740 The Vertebrates: Structure, Function & Evolution (Spring 2011, 2013, 2015)
BIOEE1780 Evolutionary Biology & Diversity, Writing in the Majors (Spring 2012)

Friday Harbor Laboratories – Teaching Assistant (2014)

BIOL533 Functional Morphology and Ecology of Fishes (Summer 2014)

Shoals Marine Laboratory – Teaching Assistant (2010 – 2013)

BIOSM 3210 Anatomy & Function of Marine Vertebrates (2010-2013)
BIOSM 1610 Ecology & the Marine Environment (Summer 2011)
BIOSM 4650 Sharks: Biology, Evolution, & Conservation (Summer 2010)

Coursework Completed in Teaching and Writing Instruction

Innovative Teaching in Science (EDUC 6470, Cornell University, Spring 2011)
Writing in the Majors Instructor Seminar (WRIT 7101, Cornell University, Spring 2012)
First-Year Writing Seminar Training (WRIT 7100, Cornell University, Fall 2012)
Workshops in Course Design (Center for Teaching Excellence, Cornell University, 2012)

Outreach

Critter Fixers: Vet for a Day – Howard University (2023) – Panelist and assisted with lab activities

Shark Fest – Natural History Society of Maryland (2022 and 2023) – Led shark dissection

World Turtle Day – Natural History Society of Maryland (2023) – Sea turtle necropsy demo

Virtual Beginner and Intermediate R Workshops – MISS Minority women in Shark Sciences – Held virtual R programming workshops

Remote Heart Dissection – Local DC Homeschooler (2020) – Led a group of home-schoolers through their dissection of a sheep heart over Zoom

Skype-A-Scientist – Bridge Street School in Northhampton, MA (2020) – Virtual classroom visit

Anatomy Day – Howard University Middle School (2018) – 7th graders visited the Department of Biology to participate in demonstrations of vertebrate anatomy

I Heart Science Festival – Harvard Museum of Natural History (2016 – 2017) – Developed and led a “Funky Fish Fins” activity using specimens from the Harvard MCZ

Micro-CT data posted to the Open Science Framework and Morphosource for public access and scientific use (<https://osf.io/3mrgf/> , 2015 – Present).

UNH Pathways Mentorship Program volunteer mentor (2015 – 2016)

Expanding Your Horizons – STEM Conference for 7-9th grade girls – Developed and led Marine Biology workshop (2011-2015)

Friday Harbor Laboratories *Science and Poetry Symposium* speaker and poetry judge (2014)

Friday Harbor Laboratories Open House for local community (2014)

Cornell Graduate Student’s School Outreach Program, Developed mini-course, *The Physics of Fishes*, for students in Ithaca High School’s AP Physics courses (2014)

Festival of Bad Ad Hoc Hypotheses, MIT (2013, 2015)

Media, Press, and Popular Science Pieces

Graves, Farina, and Amacker, 2023. “Historically Black Colleges and Universities Have Affirmative Action Solutions. But They Need Help”
<https://www.scientificamerican.com/article/historically-black-colleges-and-universities-have-affirmative-action-solutions-but-they-need-help/>

Farina and Amacker, 2022. “Why Scientists Must Stand for Affirmative Action and Against Scientific Racism” *Scientific American*. <https://www.scientificamerican.com/article/why-scientists-must-stand-for-affirmative-action-and-against-scientific-racism/>

Farina and Gibbons, 2022. “The Last Refuge of Scoundrels’ New Evidence of E. O. Wilson’s Intimacy with Scientific Racism” *Science for the People Magazine*.
<https://magazine.scienceforthepeople.org/online/the-last-refuge-of-scoundrels/>

Schulson, 2022. “New Evidence Revives Old Questions about E. O. Wilson and Race”
<https://undark.org/2022/02/16/new-evidence-revives-old-questions-about-e-o-wilson-and-race/>

Flaherty, 2022. “An Academic Influences a Killer” *Inside Higher Ed*.
<https://www.insidehighered.com/news/2022/05/23/buffalo-shooter-cites-notre-dame-professor-others>

Barr, 2022. “It’s Not Just Great Replacement Theory That Influenced the Buffalo Shooter.” *Gizmodo*. <https://gizmodo.com/buffalo-shooter-great-replacement-theory-eugenics-ra->

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- Learn, JR. 2019. “This odd deep-sea fish can hold its breath for four minutes” National Geographic. <https://www.nationalgeographic.com/animals/2019/06/coffinfish-deep-sea-inflate-oceans/>
- Tennenhouse, E. 2019. “Spotted for the first time: a fish holding its breath underwater.” Science Magazine. <https://www.science.org/content/article/spotted-first-time-fish-holding-its-breath-underwater>
- Sopinka, N. 2016. “Back Page Photo Series: An Interview with Stacy Farina.” American Fisheries Society, *Fisheries* <http://dx.doi.org/10.1080/03632415.2016.1162562>
- Gilman, C. “Outside JEB: Amphibious fish prop up when seeking water.” *Journal of Experimental Biology* 219:1586-1587
- Ouellette, J. 2015. “Back-Flipping Fish Look Before They Leap Across Land.” *Gizmodo* <http://gizmodo.com/back-flipping-fish-look-before-they-leap-across-land-1741008121>
- Pennisi, E. 2015. “Video: A chainsaw spiked with shark teeth.” *Science Magazine* <http://www.sciencemag.org/news/2015/01/video-chainsaw-spiked-shark-teeth>

Service and Professional Activities

Society Memberships: American Fisheries Society, American Society of Ichthyologists and Herpetologists, Society for Integrative and Comparative Biology, American Physiological Society, Sigma Xi Scientific Honors Society

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| 2023 – Present | Department of Biology Honors Committee (reviewed applications for Fall 2023 Honors program) |
| 2023 – Present | Faculty Advisor for Howard University’s K-Pop dance team, One of a Kind (1OAK) |
| 2023 – Present | NOAA Flatfish Biology Conference – Steering Committee Member |
| 2023 | Center of Applied Data Science and Analytics – Search Committee Member for the joint Biology and College of Medicine search |
| 2022 – Present | College of Arts and Sciences: Admissions Committee and Technology Committee |
| 2022 – Present | Editor for the journal <i>Zoology</i> |
| 2022 – Present | Board of Governors for American Society of Ichthyologists and Herpetologists |
| 2022 – Present | Department of Biology, Howard University, Curriculum Committee: Member (role: discussed and voted on course approvals and curriculum decisions) |
| 2022 | Organized a workshop by the University of California at Irvine Center for |

Integrative Movement Sciences: *Integrative Organismal Modeling of Movement: Morphological Methods in Evolutionary Biomechanics*

- 2022 Gave an invited talk for Society for Integrative and Comparative Biology symposium “*Lesser known transitions: organismal form and function across abiotic gradients*”
- 2021 – 2022 Howard University, College of Arts and Sciences, Graduate Curriculum Committee: Member (role: discussed and voted on new graduate programs and revisions to current curricula)
- 2020 – Present Faculty Advisor for Howard University's chapter of oSTEM (Out in Science, Technology, Math, and Engineering), a student organization
- 2020 – 2022 Served on three NSF proposal review panels
- 2018 – 2022 Reviewer for the *Journal of Morphology*, *The Anatomical Record*, *Copeia*, *Integrative and Comparative Biology*, *Biology Letters*, *Zoomorphology*, *Royal Society Biology Open Science*, *Integrative and Organismal Biology*
- 2021 Gave an invited seminar at Salisbury University
- 2018 – 2021 Department of Biology, Howard University, Senior Comprehensive Exam Committee: Member (August 2018 to February 2019); Acting Chair (February 2019 - May 2020); Chair (August 2020 – December 2021); One major accomplishment was leading and coordinating the transition of the SCE to an online format during covid
- 2021 Howard University, College of Arts and Sciences, Graduate Fellowship Reviewer
- 2020 Gave an invited research seminar for Howard University's Department of Anatomy seminar series.
- 2020 Howard University College of Arts and Sciences Strategic Planning Taskforce Focus Group Member
- 2018 – 2020 Department of Biology, Howard University, Safety Committee: Member
- 2019 Co-organized a symposium entitled "Multifunctional structures and multistructural functions: Functional coupling and integration in the evolution of biomechanical systems" for the 2019 meeting for the Society for Integrative and Comparative Biology in Tampa, FL In our symposium volume in *Integrative and Comparative Biology*, published in August 2019, we proposed new ways to understand and analyze the evolution of structures when they perform multiple functions or coordinate with many

other structures to perform a single complex behavior.

- 2019 Gave an invited symposium presentation entitled "Reciprocal value of museum vouchers to collections and to functional morphology research" at the annual meeting of the American Society of Ichthyologists and Herpetologists.
- 2019, 2021 Gave an invited research seminar at the Friday Harbor Laboratories summer seminar series.
- 2019 Worked with USDA to host a career workshop for undergraduates in Biology.
- 2010 – 2014 Organizing committee (committee head in 2014) for the Cornell University Department of Ecology and Evolutionary Biology's Graduate Student Symposium