

CURRICULUM VITAE  
**SHANNON MARIE BESTON**

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**EDUCATION**

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- Expected* 2019      Ph.D. in Quantitative Biology, University of Texas at Arlington  
Advisor: Matthew R. Walsh, Ph.D.
- 2010 – 2014      B.S. in Biology *with honors*, Hobart and William Smith Colleges  
Advisor: Susan F. Cushman, Ph.D.

**ACADEMIC APPOINTMENTS**

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- 2018 – *present*      American Fellow, American Association of University Women
- 2018 (*summer*)      Graduate research assistant, National Science Foundation: CAREER: Does behavioral plasticity promote or constrain adaptation? A test using resurrection  
PI: Matthew R. Walsh, Ph.D.
- 2014 – 2018      Graduate teaching assistant, Department of Biology, University of Texas at Arlington
- 2017 (*summer*)      Graduate research assistant, National Science Foundation: Testing the influence of long-term ecological change on evolutionary response in zooplankton  
PI: Matthew R. Walsh, Ph.D.
- 2013      Undergraduate research assistant, Hobart and William Smith Colleges  
Supervisor: Susan F. Cushman, Ph.D.
- 2012      Undergraduate research assistant, Finger Lakes Institute  
Supervisor: Susan F. Cushman, Ph.D.

**PUBLICATIONS**

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\* - invited manuscript, + - undergraduate author, <sup>δ</sup> - equally contributing authors

*In review:*

- (9)      **Beston, S.M.<sup>δ</sup>**, S. Stearns<sup>δ+</sup>, K. Howell, and M.R. Walsh. (*in review*) The evolution of vertebrate brain architecture in response to divergent natural selection: concerted vs. mosaic evolution?  
***The American Naturalist***

*In revision:*

- (8) Dunlap, K.D., J. Corbo<sup>+</sup>, M. Vergara<sup>+</sup>, **S.M. Beston**, and M.R. Walsh. (*in revision*) Predation drives evolution of brain cell proliferation and brain allometry in Trinidadian killifish, *Rivulus hartii*. **Proceedings of the Royal Society B** MS ID: RSPB-2019-0250
- (7) **Beston, S.M.** and M.R. Walsh. (*in revision*) Natural selection favors a larger eye size in response to increased competition in natural populations of a vertebrate. **Functional Ecology** MS ID: FE-2018-00628.R2
- (6) Howell, K.J., **S.M. Beston**, and M.R. Walsh. (*in revision*) Increased brain size is associated with increased propensity to engage in aerial jumping behavior in a Trinidadian killifish (*Rivulus hartii*). **Animal Behavior** MS ID: ANBEH-D-18\_00530

Peer reviewed:

- (5) **Beston, S.M.**, J.L. Dudycha, D.M. Post, and M.R. Walsh. (*in press*) The evolution of eye size in response to increased fish predation in *Daphnia*. **Evolution**
- (4) Walsh, M.R., M. Packer, **S.M. Beston**, C. Funkhouser, M. Gillis, J. Holmes, and J.M. Goos. **2018**. *Daphnia* as a model for eco-evolutionary research. *Natural History of the Crustacea, Vol. 5: Life Histories*, Oxford University Press
- (3) **Beston, S.M.**, E. Wostl, and M.R. Walsh. **2017**. The evolution of vertebrate eye size across an environmental gradient: phenotype does not predict genotype in a Trinidadian killifish. **Evolution** 71: 2037-2049
- (2) **Beston, S.M.**, W. Broyles<sup>+</sup>, and M.R. Walsh. **2017**. Increased juvenile predation is not associated with evolved differences in adult brain size in Trinidadian killifish (*Rivulus hartii*). **Ecology and Evolution** 7(3): 884-894
- (1) Walsh, M.R., W. Broyles<sup>+</sup>, **S.M. Beston**, and S.B. Munch. **2016**. Predator-driven brain size evolution in natural populations of Trinidadian killifish (*Rivulus hartii*). **Proceedings of the Royal Society B** 283: 20161075

In preparation:

**Beston, S.M.** and M.R. Walsh. (*in prep*) The evolution of vertebrate brain size: where do we stand 100 years later? Invited review at *Ecology Letters*\*

**Beston, S.M.**, K. Howell, and M.R. Walsh. (*in prep*) Tests of the behavioral and fitness correlates of predator driven brain size evolution in the wild.

**Beston, S.M.**, K. Howell, and M.R. Walsh. (*in prep*) Competition as a selective mechanism for eye size evolution in Trinidadian killifish.

## **GRANTS, AWARDS, & FELLOWSHIPS**

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- 2018 American Fellowship, American Association of University Women; **\$20,000**  
 Outstanding Graduate Research Award, Biology Department, University of Texas at Arlington; **\$500**  
 Travel Grant, Beta Phi Chapter of the Phi Sigma Biological Honor Society, **\$750**

- 2017      Doctoral Dissertation Improvement Grant (DDIG), National Science Foundation,  
 “DISSERTATION RESEARCH: The evolution of complexity: tests of the ecological  
 drivers of eye size evolution in Trinidadian killifish (*Rivulus hartii*)”;  
**\$19,604**  
 Travel Grant, Beta Phi Chapter of the Phi Sigma Biological Honor Society, **\$750**
- 2016      Research Grant, Beta Phi Chapter of the Phi Sigma Biological Honor Society; **\$3,000**
- 2015      Research Grant, Beta Phi Chapter of the Phi Sigma Biological Honor Society; **\$1,500**
- 2014      Environmental Research Fund Grant, Hobart and William Smith Colleges; **\$600**  
 Student Travel Award, Great Lakes Research Consortium; **\$250**  
 Biology Research Award, Hobart and William Smith Colleges; **\$100**
- 2013      Best Student Poster Presentation, Finger Lakes Research Conference; **\$100**

## **PRESENTATIONS**

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\* - co-authored presentation, + poster presentation

### **Contributed talks –**

- 2018      The American Society of Naturalists, Asilomar, CA  
 2017      Evolution, Portland, OR  
 2016      Evolution, Austin, TX  
           NY Chapter of American Fisheries Society Annual Meeting, Cooperstown, NY\*  
 2015      Society for Freshwater Science, Milwaukee, WI+  
 2014      Joint Aquatic Sciences Meeting, Portland, OR  
           Senior Symposium, Hobart and William Smith Colleges, Geneva, NY  
           NY Chapter of American Fisheries Society Annual Meeting, Geneva, NY  
 2013      Finger Lakes Research Conference, Geneva, NY+  
           Northeast Natural History Conference, Springfield, MA\*  
 2012      Annual Fall Paper Session of the Rochester Academy of Science, Rochester, NY+

### **Invited talks –**

- 2018      2<sup>nd</sup> Joint Congress on Evolutionary Biology, Montpellier, France+ (*declined invitation*)  
 2016      STEM Academy, Morristown High School

## **PROFESSIONAL ACTIVITIES**

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**Reviewer:** Animal Biology (1), Biological Journal of the Linnean Society (1), Evolution (2), PLoS One (1), Proceedings of the Royal Society B (2), Scientific Reports (1)

**Symposium organizer:** 2<sup>nd</sup> Joint Congress on Evolutionary Biology (2018)

**Society membership:** American Society of Naturalists (ASN), Society for Integrative and Comparative Biology (SICB), Beta Phi Chapter of the Phi Sigma Biological Honors Society, Society for the Study of Evolution (SSE)

## **SERVICE & OUTREACH**

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2018 EarthX, Dallas, Texas  
2017 Ecofest, Arlington, Texas  
2017 Earth Day TX, Dallas, Texas  
2016-2017 Vice President, Beta Phi Chapter of the Phi Sigma Biological Honor Society  
2016 Ecofest, Arlington, Texas  
2015 Ecofest, Arlington, Texas  
2014 Project coordinator, Day of Service, Hobart and William Smith Colleges  
Student committee for department hire, Hobart and William Smith Colleges  
Student committee for professor tenure review, Hobart and William Smith Colleges  
2013 William Smith Judicial Board, Hobart and William Smith Colleges  
2012 Castle Creek Water Quality Educational Outreach Experience, The Finger Lakes Institute  
Cascadilla Creek Stream Health Educational Outreach Experience, Sciencenter of Ithaca

## **UNDERGRADUATES MENTORED**

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2018 Anum Zobairi; Undergraduate, University of Texas at Arlington  
2016 – 2018 Sara Stearns; Honors College Undergraduate, University of Texas at Arlington  
2016 Taryn Flink; Graduate Student, University of Texas at Arlington  
Kaitlyn Howell; Graduate Student, University of Texas at Arlington  
2015 Joseph Sanders; Watershed Stewards Program, California Conservation Corps, AmeriCorps

## **TEACHING ACTIVITIES**

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2018 (S) Teaching assistant, Evolution, Ecology, & Global Change Laboratory for non-majors  
2017 (F) Teaching assistant, Ecology Laboratory  
2017 (S) Teaching assistant, Evolution, Ecology, & Global Change Laboratory for non-majors  
2016 (F) Teaching assistant, Molecules, Cells, & Disease Laboratory for non-majors  
2016 (Su) Teaching assistant, Evolution, Ecology, & Global Change Laboratory for majors  
2016 (S) Teaching assistant, Evolution, Ecology, & Global Change Laboratory for non-majors  
2015 (F) Teaching assistant, Introduction to Biostatistics  
2015 (Su) Teaching assistant, Introduction to Biostatistics  
2015 (S) Teaching assistant, Molecules, Cells, & Disease Laboratory for non-majors  
2014 (F) Teaching assistant, Cell & Molecular Biology Laboratory for majors