Phillip Luke Davidson
Curriculum Vitae

Ph.D. Student
Department of Biology
Duke University, Durham, NC
phillip.davidson@duke.edu

Education

2016-present Ph.D. student, Department of Biology, Duke University
Certificate in Developmental and Stem Cell Biology
Thesis (tentative): "Genomic and metabolic mechanisms underlying developmental life history evolution in the sea urchin genus *Heliocidaris*"
Advisor: Gregory Wray, Ph.D.

2013-2016 B.S. Biology with Honors, University of Miami, FL. GPA: 3.85
Minors: Mathematics and Marine Science
Thesis: "Comparative RNA-seq analysis of two developmental stages during embryogenesis in the ctenophore *Mnemiopsis leidyi"*
Advisor: William Browne, Ph.D.

Other Research Positions

2017-Present Visiting graduate researcher, University of Sydney, Australia. Supervisor: Maria Byrne, Ph.D.

2016-2017 Ph.D. rotations: *Nicolas Buchler Lab*: Evolution and function of a hybrid animal-fungal cell cycle network in the chytrid *Spizellomyces punctatus*. *Philip Benfey Lab*: Natural variation in anchor root development across *Arabidopsis thaliana* ecotypes. *Gregory Wray Lab*: Lipidomic and proteomic mass spectrometry analysis of lecithotrophic and planktotrophic sea urchin development. Duke University, NC.

2013-2016 Undergraduate: *William Browne Lab*: Evolution and development of Ctenophora: gene networking and differential expression during embryogenesis in *M. leidyi*. University of Miami, FL.

Publications

Davidson, P.L., Koch, B.J., Schnitzler, C.E., Henry, J.Q., Martindale, M.Q., Baxevanis, A.D., Browne, W.E. (2017) The maternal-zygotic transition and zygotic activation of Mnemiopsis leidyi genome occurs within the first three cell cycles. **Molecular Reproduction and Development** 84: 1218-1229. *http://dx.doi.org/10.1002/mrd.22926*

In prep:

Davidson, P.L., Thompson, J.W., Foster, M.W., Moseley, M.A., Byrne, M., Wray, G.A. Alterations to developmental physiology associated with rapid life history evolution in sea urchins. *Revising.*

Grants and Awards

2015-2016 Center for Computational Science Fellowship. University of Miami, FL.
Amount: $500.00

2015 Beyond the Book Summer Research Scholarship. University of Miami, FL.
Amount: $4,000.00

Teaching

2015 Teaching Assistant, MSC230: Introduction to Marine Biology. Instructor: Peter Glynn, Ph.D. University of Miami, FL.

Outreach and Leadership Experience

2017-2018 Biology Graduate Student Steering Committee Member, Duke University, NC.
2015-2016 SCUBA Club Officer, University of Miami, FL.
2015 Undergraduate Research Mentor, UConnect, University of Miami, FL.
2014 Conservation Volunteer, Galápagos Tortoise Breeding Center (Centro de Crianza Arnaldo Tupiza), Puerto Villamil, Galápagos Islands, Ecuador.

Educational Support

2016-2018 NIH Training Program in Developmental and Stem Cell Biology, Duke University, NC.
2013-2016 Gables Scholarship, University of Miami, FL.
2013-2016 President's Scholarship, University of Miami, FL.

Honors

2013-2016 Provost's Honor Roll, University of Miami, FL.
2013-2016 Dean's List, University of Miami, FL.
2013-2016 Foote Fellows Honors Program, University of Miami, FL.
2014 President's Honor Roll, University of Miami, FL.

Professional Development Workshops

2017 Strategies for Metabolomics Data Collection, Analysis & Interpretation, Duke University, Durham, NC.
2017 Experimental Design: Get the most out of your proteome, Duke University, Durham, NC.
2016 Gene Expression Analysis in Python, Duke University, Durham, NC.
2016 Genomics in R, Data Carpentry Workshop, Miami, FL.

Presentations

Davidson, PL and Browne, WE. (2015) Development of rapid gene expression profiling during embryogenesis in the ctenophore *Mnemiopsis leidyi*. Undergraduate Research, Creativity, and Innovation Forum. Poster presentation delivered at University of Miami, 2015.