

# KATHLEEN LOIS FOSTER, PH.D.

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## Current Position

- 2016 to present – Postdoctoral Research Fellow, University of Ottawa

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## Education

- 2016 – Ph.D., Evolution, Ecology, and Organismal Biology, University of California, Riverside
- 2010 to 2011 – Graduate Student/Teaching Assistant, Clemson University (lab relocated to UCR)
- 2010 - B.S. Hon. with Distinction, Marine Biology, University of British Columbia

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## Publications

- **Foster, K.L.** and Standen, E.M. *In Review*. Fin and body neuromuscular coordination changes during walking and swimming in *Polypterus senegalus*. *Journal of Experimental Biology*.
- **Foster, K.L.** and Higham, T.E. *In Revision*. Skink ecomorphology: forelimb and hind limb lengths correlate with habitat use, but static stability does not. *Journal of Evolutionary Biology*.
- **Foster, K.L.** and Higham, T.E. 2017. Integrating gastrocnemius force-length properties, *in vivo* activation, and operating lengths reveals how *Anolis* deal with ecological challenges. *Journal of Experimental Biology* 220, 796-806.
- **Foster, K.L.**, Collins, C.E., Higham, T.E., and Garland, T., Jr. 2015. Determinants of lizard escape performance: decision, motivation, ability, and opportunity. In *Escaping from predators: An integrative view of escape decisions*, eds. W.E. Cooper, Jr. and D.T. Blumstein.
- **Foster, K.L.** and Higham, T.E. 2014. Context-dependent changes in motor control and kinematics during locomotion: modulation and decoupling. *Proceedings of the Royal Society B* 281, 20133331.
- **Foster, K.L.** and Higham, T.E. 2012. How forelimb and hindlimb function changes with incline and perch diameter in the green anole, *Anolis carolinensis*. *Journal of Experimental Biology* 215, 2288-2300.
- **Foster, K.L.** and Higham, T.E. 2010. How to build a pectoral fin: Functional morphology and steady swimming kinematics of the spotted ratfish. *Canadian Journal of Zoology* 88, 774-780.

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## Abstracts and presentations

- **Foster, K.L.** and Standen, E.M. 2017. Neuromuscular function and coordination of fin and body musculature during swimming and walking in *Polypterus senegalus*. Oral presentation given at the annual meeting of the Canadian Society of Zoologists, Winnipeg, Manitoba, Canada.
- **Foster, K.L.** and Higham, T.E. 2017. Comparative neuromuscular function during arboreal locomotion in *Anolis* lizards. Oral presentation given at the annual meeting of the Society for Integrative and Comparative Biology, New Orleans, LA.
- **Foster, K.L.** and Higham, T.E. 2016. Comparative arboreal locomotion of *Anolis* lizards. Oral presentation given at the annual meeting of the Society for Integrative and Comparative Biology, Portland, OR.
- **Foster, K.L.** and Higham, T.E. 2015. Muscle recruitment and mechanics are modulated during arboreal locomotion in *Anolis* lizards. Oral presentation given at the annual meeting of the Society for Experimental Biology, Prague, Czech Republic.
- **Foster, K.L.** and Higham, T.E. 2015. Modulation of muscle function during arboreal locomotion in *Anolis* lizards. Oral presentation given at the annual meeting of the Canadian Society of Zoologists, Calgary, Alberta, Canada.
- **Foster, K.L.** and Higham, T.E. 2015. Modulation of muscle function during arboreal locomotion in *Anolis* lizards. Oral presentation given at Gradfest – University of California, Riverside, Riverside, CA.
- **Foster, K.L.** and Higham, T.E. 2015. The mechanical functions of muscle and tendon during arboreal locomotion in *Anolis* lizards. Oral presentation given at the annual meeting of the Society for Integrative and Comparative Biology, West Palm Beach, FL.
- **Foster, K.L.**, Garland, T., Jr., and Higham, T.E. 2015. Ecomorphology of lygosomine skinks: the impact of habitat use on limb length. Poster presentation given at the annual meeting of the Society for Integrative and Comparative Biology, West Palm Beach, FL.
- **Foster, K.L.** 2014. Presenting your research to judges, teachers, and adults: what to say and how to say it. Invited lecture given at the Pomona Unified School District Science Fair Expo, Riverside, CA.
- **Foster, K.L.** 2014. Statistics for science fairs: what you need to know about basic graphing and statistics. Invited lecture given at the Riverside County Office of Education Science Fair Expo, Riverside, CA.
- **Foster, K.L.** and Higham, T.E. 2014. Muscle and tendon function in *Anolis* lizards. Oral presentation given at the Southwest Organismal Biology meeting, Irvine, CA.
- **Foster, K.L.** and Higham, T.E. 2014. Context-dependent modulation and decoupling of motor control and kinematics during locomotion in the green anole (*Anolis carolinensis*). Oral presentation given at Genomes to/aux Biomes 2014 - Joint meeting of the Canadian Society of Ecology and Evolution, Canadian Society of Zoologists, and Society of Canadian Limnologists, Montréal, Canada.
- **Foster, K.L.** 2013. Analyzing data: why and how to make graphs for science fair projects. Invited lecture at the Coachella Valley Science Fair Expo, Palm Desert, CA.

- **Foster, K.L.** 2013. Statistics in science: methods, insights, and limitations of statistics in scientific research. Invited lecture at the Coachella Valley Science Fair Expo, Palm Desert, CA.
- **Foster, K.L.** 2013. Statistics in science: methods, insights, and limitations of statistics in scientific research. Invited lecture at the Riverside County Office of Education Science Fair Expo, Riverside, CA.
- **Foster, K.L.** and Higham, T.E. 2013. Functional mechanisms underlying the relationship between morphology and habitat use in lizards. Symposium presentation given at the International Congress of Vertebrate Morphology, Barcelona, Spain.
- **Foster, K.L.** and Higham, T.E. 2013. Neuromuscular control of arboreal locomotion: how green anoles deal with changes in incline and perch diameter. Oral presentation given at Gradfest – University of California, Riverside, Riverside, CA.
- **Foster, K.L.** and Higham, T.E. 2013. Neuromuscular control of arboreal locomotion: how green anoles (*Anolis carolinensis*) deal with changes in incline and perch diameter. Oral presentation given at the annual meeting of the Society for Integrative and Comparative Biology, San Francisco, CA.
- **Foster, K.L.** and Higham, T.E. 2012. How fore- and hindlimb function changes with incline and perch diameter in *Anolis carolinensis*. Oral presentation given at the annual meeting of the Society for Integrative and Comparative Biology, Charleston, SC.
- **Foster, K.L.** 2011. Biogeography and Phylogeography. Invited lecture for Herpetology (BIOSC 468), Clemson University, Clemson, SC.
- **Foster, K.L.** and Higham, T.E. 2010. Functional morphology and biomechanics of ratfish steady swimming. Oral presentation given at the annual meeting of the Society for Integrative and Comparative Biology, Seattle, WA.
- **Foster, K.L.** 2009. Flight of the Dr. Seuss fish: Pectoral fin functional morphology of the spotted ratfish (*Hydrolagus coliei*). Oral presentation at Bamfield Marine Sciences Centre, BC, Canada.

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## Teaching Experience

- **Teaching assistant, Animal Behavior (BIOL 160)**, University of California, Riverside, Spring 2015. Responsible for leading and grading four discussion sections per week.
- **Teaching assistant, Functional Anatomy of the Vertebrates (BIOL 161B)**, University of California, Riverside, Winter 2015. Responsible for instructing and grading two laboratory sections per week.
- **Teaching assistant, Functional Anatomy of the Vertebrates (BIOL 161A)**, University of California, Riverside, Fall 2014. Responsible for instructing and grading two laboratory sections per week.
- **Teaching assistant, Human Physiology (BIOSC 316)**, Clemson University, Spring 2011. Responsible for instructing and grading two laboratory sections per week.

- **Teaching assistant, Comparative Physiology (BIOSC 475)**, Clemson University, Fall 2010. Responsible for instructing and grading two laboratory sections per week.
- **Teaching assistant, Biomechanics, Biology of Marine Fishes**, Bamfield Marine Sciences Centre, Vancouver Island, Canada, Summer 2010 and 2011. Involved in planning and executing laboratory and field activities, assisting students with independent projects, and grading.

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## **Fellowships and Awards**

- 2015 – William S. Hoar Award for best student oral presentation at the 2015 annual meeting of the Canadian Society of Zoologists – \$500
- 2015 – UC Riverside Dissertation-Year Fellowship for 2015-16 academic year – \$38,767
- 2015 – UC Riverside Graduate Student Association Travel Award – \$600
- 2015 – Company of Biologists Travel Grant – \$544
- 2015 – Canadian Society of Zoologists Travel Grant – \$500
- 2015 – UC Riverside Graduate Student Association Travel Award – \$500
- 2015 – UC Riverside Graduate Student Association Travel Award – \$400
- 2014 – UC Riverside Dissertation Research Grant – \$800
- 2014 – UC Riverside Earle C. Anthony Travel Award – \$900
- 2014 – EPCOR Water Ltd. Student Travel Award – \$500
- 2014 – UC Riverside Vaughan H. Shoemaker Graduate Fellowship – \$1500
- 2013 – UC Riverside Graduate Student Association Travel Award – \$360
- 2013 – UC Riverside Graduate Student Association Travel Award – \$300
- 2012 – UC Riverside Graduate Division Fee Fellowship – 2 years totalling \$26,094
- 2011 – UC Riverside Newell Travel Award – \$800
- 2011 – UC Riverside Dean’s Distinguished Fellowship – five years totalling \$168,323
- 2011 – Alberta Innovates Graduate Student Scholarship – \$10,000 (declined)
- 2011 – NSERC Postgraduate Scholarship D – three years totalling \$63,000
- 2011 – Bamfield Marine Sciences Centre Graduate Student Scholarship - \$2000
- 2011 – Clemson University Professional Enrichment Grant - \$1000 (declined)
- 2010 – Clemson University Professional Enrichment Grant - \$566
- 2010 – Clemson University teaching/research assistantship - \$18,000
- 2010 – Clemson University graduate school recruitment fellowship - \$7500

- 2009 – NSERC Undergraduate Student Research Award - \$5625
  - 2007-2008 – Scotiabank Student Mobility Award - \$7000
  - 2005-2006 – University of British Columbia President’s Entrance Scholarship - \$4000
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## **Field Work**

- 2015 – Puerto Rico, in the vicinity of El Yunque National Forest
  - 2009, 2010, 2011 – Bamfield Marine Sciences Centre, Vancouver Island, Canada
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## **Academic Service**

- Committee member – Community Ecologist tenure-track faculty search committee (2015-2016)
  - Committee member – Biology Department Outreach Committee (2013-present)
  - President - Evolution, Ecology, and Organismal Biology Graduate Student Association (2013-2014 and 2014-2015 academic years)
  - Co-organizer - Evolution, Ecology, and Organismal Biology Lunch Bunch Seminar Series (2014)
  - Co-organizer – GradFest Recruitment Weekend/Conference for incoming EEOB students (2014)
  - Designed website for the Southwest Division of Comparative Biomechanics/Division of Vertebrate Morphology regional meeting of the Society of Integrative and Comparative Biology (meeting date Oct. 26, 2013)
  - Part of organization committee for the Southwest Division of Comparative Biomechanics/Division of Vertebrate Morphology regional meeting of the Society of Integrative and Comparative Biology (meeting date Oct. 26, 2013)
  - Reviewer for the following journals: Zoology (4), Journal of Morphology (4), Journal of Experimental Biology (3), Biological Journal of the Linnean Society (2), Philosophical Transactions of the Royal Society B: Biological Sciences (1), Comprehensive Physiology (1), Anatomical Record (1), Zoologia (1), Journal of Herpetology (1), Journal of Zoology (1)
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## **Volunteer/Outreach Experience**

- Volunteered in a “First Sundays” outreach event, called “Science Day”, at the Riverside Metropolitan Museum (2015)
- Volunteer Biology Department representative at UCR’s Discover Day undergraduate recruitment event (2015)
- Presenter at the Pomona Unified School District Science Fair Expo (2014)
- Presenter and consultant at the Riverside County Office of Education Science Fair Expo (2014)
- Volunteer Biology Department representative at UCR’s Discover Day undergraduate recruitment event (2014)

- Helped organize and participate in a “First Sundays” outreach event, called “Animal Olympics”, at the Riverside Metropolitan Museum (2014)
- Assistant judge for Riverside Unified School District science fair (2014)
- Assistant judge for Alcott Elementary School science fair (2014)
- Presenter and consultant at the Coachella Valley Science Fair Expo (2013)
- Presenter and consultant at the Riverside County Office of Education Science Fair Expo (2013)
- Mentor for Grade 8 science students through University of British Columbia’s Let’s Talk Science program at Britannia high school (2009)
- UBC Tri-mentoring program (2008-2009 school year)
- Assistant Coach for London Rowing Club Summer Program (summer 2006 and 2007)
- Women’s coach for Saunders Rowing Team (spring 2006 and 2007)

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## **Academic Society Membership**

- Society for Experimental Biology (2015-present)
  - Canadian Society of Zoologists (2014-present)
  - Society for Integrative and Comparative Biology (2009-present)
  - Golden Key International Honours Society (2009-present)
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