

Kevin James Emerson, Ph.D.

The Institute of Ecology and Evolution, University of Oregon
335 Pacific Hall, 5289 University of Oregon, Eugene, OR 97403
Ph: (541) 543-8375, Fax: (541) 346-2364
Email: kemerson@uoregon.edu
Website: <http://www.uoregon.edu/~kemerson>

EDUCATION

University of Oregon	Post-doctoral research (current)	Advisor:
University of Oregon	Ph.D. In Biology, 2009	William Bradshaw and Christina Holzapfel
Clarkson University	B.S. In Biology, 2002	William Bradshaw and Christina Holzapfel
Clarkson University	B.S. In Mathematics, 2002	George Gilchrist
		Christino Tamon

RESEARCH EXPERIENCE

2102 – Present	Assistant Professor, St. Mary’s College of Maryland	
2009 – 2012	Post-doctoral Researcher, University of Oregon	William Bradshaw and Christina Holzapfel
2003 – 2009	Ph.D. Dissertation, University of Oregon	William Bradshaw and Christina Holzapfel
2002 – 2003	Research Assistant, University of California, Riverside	Derek Roff
2001	NSF Research Experience for Undergraduates, University of Rochester, Rochester, NY	John Werren
2000	NSF Research Experience for Undergraduates, Rocky Mountain Biological Laboratory, Gothic, CO	David Inouye

GRANTS AND FELLOWSHIPS

2006 – 2009	NSF IGERT Training Grant in Evolution, Development, and Genomics Fellowship, University of Oregon PI: John Postlethwait, Patrick Phillips, Karen Guilleman
2004 – 2006	NIH Genetics Training Grant Fellowship, University of Oregon PI: George Sprague

TEACHING EXPERIENCE

2003 – Present	Undergraduate Research Mentor <i>4 Honors College Theses, 1 Biology Honors Thesis, 5 Major Research Projects, mentored > 25 laboratory assistants</i>	University of Oregon
2004	Graduate Teaching Fellow, Bi 380 Evolution	University of Oregon
2004	Graduate Teaching Fellow, Bi473 Quantitative Ecology	University of Oregon
2004	Graduate Teaching Fellow, Bi370 Ecology	University of Oregon
2002	Teaching assistant, By224 Ecology Laboratory	Clarkson University
1999 – 2001	Teaching assistant, Ma232 Differential Equations	Clarkson University

REVIEWING AND SERVICE

2008-2012	Reviewer: National Science Foundation, Foundation for Scientific Research Belgium, Journal of Biogeography, BMC Genomics, Archives of Insect Biochemistry and Physiology, Molecular Ecology, Journal of Experimental Biology, Czech Science Foundation, Journal of Insect Physiology, Molecular Ecology Resources, Bioessays, Heredity, Proceedings of the Royal Society of London B,
2008	Lead organizer and host of the IGERT Symposium on Evolution, Development and Genomics, University of Oregon “From Patterns to Process: Bridging micro- and macroevolutionary concepts through evo-devo.”

PUBLICATIONS

* undergraduate co-authors

W. E. Bradshaw, **K. J. Emerson**, J. M. Catchen, W. A. Cresko, and C. M. Holzapfel. *In review*. Footprints in time – a new look at genes of small effect in evolution. *Proceedings of the Royal Society of London Series B: Biological Sciences*.

W. E. Bradshaw, **K. J. Emerson**, and C. M. Holzapfel. *In press*. Genetic correlations and the evolution of photoperiodic time measurement within a local population of the pitcher-plant mosquito *Wyeomyia smithii*. *Heredity*. 108:473-479.

K. J. Emerson, C. R. Merz, J. M. Catchen, P. A. Hohenlohe, W. A. Cresko, W. E. Bradshaw and C. M. Holzapfel. 2010. Resolving postglacial phylogeography using high-throughput sequencing. *Proceedings of the National Academy of Sciences of the United States of America* 107 (37): 16196-16200.

K. J. Emerson, W. E. Bradshaw and C. M. Holzapfel. 2010. Microarrays reveal early transcriptional events during the termination of larval diapause in natural populations of the mosquito, *Wyeomyia smithii*. *PLoS ONE* 5 (3): e9574.

K. J. Emerson, A. M. Uyemura*, K. L. McDaniel*, P. S. Schmidt, W. E. Bradshaw and C. M. Holzapfel. 2009. Environmental control of ovarian dormancy in natural populations of *Drosophila melanogaster*. *Journal of Comparative Physiology A* 195 (9): 825-829.

K. J. Emerson, W. E. Bradshaw and C. M. Holzapfel. 2009. Complications of complexity: integrating environmental, genetic and hormonal control of insect diapause. *Trends in Genetics* 25 (5): 217-225.

K. J. Emerson, S. J. Dake*, W. E. Bradshaw and C. M. Holzapfel. 2009. Evolution of photoperiodic time measurement is independent of the circadian clock in the pitcher-plant mosquito, *Wyeomyia smithii*. *Journal of Comparative Physiology A* 195 (4): 385-391.

K. J. Emerson, A. D. Letaw*, W. E. Bradshaw and C. M. Holzapfel. 2008. Extrinsic light:dark cycles, rather than endogenous circadian cycles, affect the photoperiodic timer in the pitcher-plant mosquito, *Wyeomyia smithii*. *Journal of Comparative Physiology A* 194 (7): 611-615.

K. J. Emerson, W. E. Bradshaw and C. M. Holzapfel. 2008. Concordance of the circadian clock with the environment is necessary to maximize fitness in natural populations. *Evolution* 62 (4): 979-983.

D. A. Roff and **K. J. Emerson**. 2006. Epistasis and dominance: evidence for differential effects in life history versus morphological traits. *Evolution* 60 (10): 1981-1990.

E. Baudry, **K. J. Emerson***, T. Whitworth and J. H. Werren. 2003. *Wolbachia* and genetic variability in the birdnest blowfly *Protocalliphora sialia*. *Molecular Ecology* 12 (7) 1843-1854.

POSTERS AND PRESENTATIONS

K. J. Emerson, W. E. Bradshaw and C. M. Holzapfel. 2010. The genetics of seasonal adaptation. Evolution 2010. Portland OR, USA. (Talk)

K. J. Emerson. 2009. Celebrating Science: How understanding evolution impacts how we interpret the world around us. Emerald Valley Kiwanis Club. Eugene OR, USA. (Talk)

K. J. Emerson, W. E. Bradshaw and C. M. Holzapfel. 2008. The pitcher-plant mosquito, *Wyeomyia smithii*, as a model system for the study of the genetic basis of evolutionary response to climate change. IGERT Minisymposium on Evolution, Development, and Genomics. University of Oregon, Eugene OR, USA. (Poster)

K. J. Emerson, W. E. Bradshaw, E. A. Johnson and C. M. Holzapfel. 2008. Genomic approaches to studying the evolution of seasonal development in response to a changing climate. NSF IGERT Conference. Washington, D.C., USA. (Poster)

K. J. Emerson, W. E. Bradshaw and C. M. Holzapfel. 2007. Fitness costs associated with circadian disorganization. Evolution 2007. Christchurch, NZ.

K. J. Emerson, W. E. Bradshaw and C. M. Holzapfel. 2006. Seasonal adaptations in temperate insects. The UK Clock Club. University of Surrey, Surrey, UK. (Talk)

K. J. Emerson, W. E. Bradshaw and C. M. Holzapfel. 2006. The evolutionary genetics of biological timekeeping and seasonal development in the pitcher-plant mosquito, *Wyeomyia smithii*. IGERT Minisymposium on the Evolution of Novelty. University of Indiana, Bloomington IN, USA. (Poster)

RESEARCH HIGHLIGHTS AND PRESS

National Science Foundation Press Release 10-151. 2010. Genetic Structure of First Animal to Show Evolutionary Response to Climate Change Determined.

This press release describes the results of my 2010 paper in *The Proceedings of the National Academy of Sciences*.

Pennisi, E. 2008. Deciphering the genetics of evolution. *Science* 321:760-763.

This article describes a controversy in the field of 'evo-devo' over the relative importance of cis-regulatory mutations and coding region mutations in adaptive evolution. The IGERT Symposium on Evolution, Development and Genomics, for which I was lead organizer and host, is highlighted.

REFERENCES

William E. Bradshaw & Christina M. Holzapfel
Institute of Ecology and Evolution
5289 University of Oregon
Eugene, OR 97403-5289
Phone: (541) 346-4542
Email: mosquito@uoregon.edu

William A. Cresko
Institute of Ecology and Evolution
5289 University of Oregon
Eugene, OR 97403-5289
Phone: (541) 346-5189
Email: wcresko@uoregon.edu

Patrick C. Phillips
Institute of Ecology and Evolution
Department Head, Biology
5289 University of Oregon
Eugene, OR 97403-5289
Phone: (541) 346-0519
Email: pphil@uoregon.edu