

## **Sarah Wise, Visiting Fellow, CIRES Education and Outreach**

Sarah Wise

Dr. Wise is a visiting fellow in CIRES Education and Outreach, employed for academic years 2007-2009. Sarah began her career as a high school biology teacher and earned her master's in education from San Francisco State University while teaching. She then pursued evolutionary developmental biology studies at the U. of Colorado at Boulder under the direction of Dr. David Stock. As a graduate student, she was a National Science Foundation pre-doctoral fellow, a Lead Graduate Teacher for the department of Ecology and Evolutionary Biology, and a GK-12 fellow advised by Lesley Smith.

Sarah's GK-12 work with a teacher who had not previously taught about the topic of evolution inspired her to pursue postdoctoral studies of the effect of public controversy on the science instruction. Sarah's current projects in CIRES Education and Outreach include a survey of Colorado teachers, "Teaching About Publicly Controversial Science"; the coordination of CIRES Outreach efforts for Focus the Nation; the development of the workshop "Making Climate Hot: Effectively Communicating Climate Change"; and consulting with teachers and teacher professional development providers around the topics of evolution and climate change.

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### **Professional Preparation**

**Ph.D.** 2007, Department of Ecology and Evolutionary Biology, University of Colorado, Boulder, CO

**M.A.** 2002, School of Education, San Francisco State University, San Francisco, CA

**Teaching Certified** 1997, Swarthmore College, Swarthmore, PA

**B.A.** with Distinction 1996, Biology, Swarthmore College, Swarthmore, PA

### **Appointments**

2007-2009. CIRES Education and Outreach Fellow, University of Colorado, Boulder, CO

2005-2006. NSF GK12 Graduate Fellow, University of Colorado at Boulder

2004-2005. Lead Graduate Teacher for Ecology and Evolutionary Biology, Graduate Teacher Program, University of Colorado at Boulder

2002. Teacher, Botany and Physiology, Shining Mountain Waldorf School, Boulder, CO

2001-2007. NSF Graduate Research Fellow and Research Assistant, Department of Ecology and Evolutionary Biology, University of Colorado, Boulder, CO

1999-2001. Master's Candidate, School of Education, San Francisco State University

1998-2001. Teacher, Biology and Physics, Lick-Wilmerding High School, San Francisco, CA

1997-1998. Teacher, Biology and Physics, Sacred Heart Preparatory School, Atherton, CA

### **Manuscripts and Publications**

Wise, S.B., D.B. Lyons, and D.W. Stock. Developmental modules in the vertebrate dentition: Insights from the evolution of *Islet1* (in preparation).

Wise, S.B. and D.W. Stock. Regulation and function of Bone morphogenetic proteins in the development of zebrafish pharyngeal teeth (in preparation).

Wise, S.B. and D.W. Stock. 2006. Conservation and divergence of Bmp2a, Bmp2b, and Bmp4 expression patterns within and between dentitions of teleost fishes. *Evolution and Development*. 8:511-523.

Wise, S., N.T. Davis, E. Tyndale, J. Noveral, M.G. Folwell, V. Bedian, I.F. Emery, and K.K. Siwicki. 2002. Neuroanatomical studies of period gene expression in the hawkmoth, *Manduca sexta*. *Journal of Comparative Neurology*. 447:366-380.

### **Conference talks and Posters**

Wise, S.B. Teaching About Climate Change: Lessons from Evolution Education. *American Geophysical Union Meeting*, December 12, 2007.

Wise, S.B. and D.W. Stock. Function and Regulation of Bmps in zebrafish tooth development. *Denver Area Fish and Amphibian Meeting*, November 6, 2006.

Wise, S.B. and D.W. Stock. Tales from the fish's mouth: Bmp genes in the evolution and development of vertebrate teeth. *Department of Ecology and Evolutionary Biology Colloquium Series*, October 27, 2006.

Wise, S.B. The role of academia in evolution education. *Integrating Evolution, Development, and Genomics Conference*, May 31-June 2, 2006.

Wise, S.B. Presenting a summer symposium on teaching evolution (poster). *Society for Integrative and Comparative Biology Conference*, January 4-8, 2006, and meeting of the National Science Foundation Board at the University of Colorado, February 10, 2006.

Wise, S.B. and D.W. Stock. Bone morphogenetic protein expression, function, and regulation in teleost tooth development and evolution. *Society for Integrative and Comparative Biology Conference*, January 4-8, 2006.

### **Educational presentations**

2008. Panel Moderator, "Communicating Climate Change," Focus the Nation Day, University of Colorado at Boulder

2008. Workshop, "Making Climate Hot: Effectively Communicating Climate Change," CIRES Education and Outreach, University of Colorado at Boulder

2007. Workshop, "Teaching Trees," Biological Sciences Initiative Evolution Workshop, University of Colorado at Boulder

2006. Workshop, "Teaching Macroevolution," Teaching Evolution: Meeting the Challenge Workshops, University of Colorado at Boulder

2006. Panelist, "Preparing for Challenges," Teaching Evolution: Meeting the Challenge Workshops, University of Colorado at Boulder

2005-2007. Lecture, "Evolution and Development," for Dr. Paul Strode's AP Biology class, Boulder High School

2005. Workshop, "Teaching Evolution," for graduate students in Ecology and Evolutionary Biology, University of Colorado at Boulder

2005. Workshop, "Teaching Evolution," for members of the Colorado Science Educators Network, Denver Museum of Nature and Science.

2005. Lecture and Discussion, "Challenges and Opportunities for Teaching Evolution," Teaching Evolution: Meeting the Challenge Symposium, University of Colorado at Boulder

2005-2006. Lectures, "Evolution and Development," for undergraduates in Dr. Andrew Martin's Evolution class, University of Colorado at Boulder.

2002-2006. Workshops, "Effective Lesson Planning," for graduate students attending the Graduate Teacher Program's Fall Intensive Workshop series, University of Colorado at Boulder.