

## JOSEPH A. ROSS, PH.D.

Post-Doctoral Fellow

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### Education

- 2002—2008      Ph.D. Molecular and Cellular Biology  
University of Washington  
“The evolution of sex-chromosome systems in stickleback fishes.”  
Advisor: Catherine Peichel, Ph.D.
- 1996—2000      B.A. Biochemistry, *magna cum laude* and Departmental Honors  
University of Oregon  
“DNA-TATA Binding Protein interactions during transcription initiation.”  
Honors Advisor: Diane K. Hawley, Ph.D.

### Employment

- 2008—present      Post-Doctoral Research Associate / Fellow  
Eric Haag Laboratory, Department of Biology  
University of Maryland, College Park  
“The evolution of self-fertility and genetic incompatibility in  
*Caenorhabditis briggsae*.”
- 2001—2002      Research Technician  
Barbara Trask Laboratory  
Fred Hutchinson Cancer Research Center  
“Mouse olfactory epithelium cDNA library screen.”
- 2000—2001      Quality Assurance / Quality Control Technician  
GeneSpan, Inc.  
“QA/QC of additives to stabilize transient transfection in cultured cells.”
- 1996—1999      Laboratory Assistant  
Biology Macintosh Computer Lab, University of Oregon

## Peer-Reviewed Publications

- 2011 **Ross JA**, Koboldt DC, Staisch JE, Chamberlin HM, Gupta BP, Miller RD, Baird SE and Haag ES. "Caenorhabditis briggsae recombinant inbred line genotypes reveal inter-strain incompatibility and the evolution of recombination." *PLoS Genet* **7**(7): e1002174.
- 2009 Kitano J, **Ross JA**, Mori S, Kume M, Jones FC, Chan YF, Absher DM, Grinwood J, Schmutz J, Myers RM, Kingsley DM and Peichel CL. "A role for a neo-sex chromosome in stickleback speciation." *Nature* **461**(7267): 1079-1083.
- 2009 **Ross JA**, Urton JR, Boland J, Shapiro M and Peichel CL. "Turnover of Sex Chromosomes in the Stickleback Fishes (*Gasterosteidae*)." *PLoS Genet* **5**(2): e1000391.
- 2008 **Ross JA** and Peichel CL. "Molecular cytogenetic evidence of rearrangements on the Y chromosome of the threespine stickleback fish." *Genetics* **179**: 2173-2182.
- 2004 Peichel CL, **Ross JA**, Matson CK, Dickson M, Grimwood J, Schmutz J, Myers RM, Mori S, Schluter D and Kingsley DM. "The master sex-determination locus in threespine sticklebacks is on a nascent Y chromosome." *Current Biology* **14**:1416-1424.
- 2003 Young JM, Shykind BM, Lane RP, Tonnes-Priddy L, **Ross JA**, Walker M, Williams EM, Trask BJ. "Odorant receptor expressed sequence tags demonstrate olfactory expression of over 400 genes, extensive alternate splicing and unequal expression levels." *Genome Biology* **4**:R71.
- 2002 Young JM, Friedman C, Williams EM, **Ross JA**, Tonnes-Priddy L, Trask BJ. "Different evolutionary processes shaped the mouse and human olfactory receptor gene families." *Human Molecular Genetics* **11**:535-546.

## Other Publications

- 2008 **Ross JA**. "The Evolution of Sex-Chromosome Systems in Stickleback Fishes." Ph.D. Dissertation, University of Washington.
- 2007 **Ross JA**. Correspondence. *Nature* **445**:593.

## Oral Presentations

(Invited and Conference)

- 2011 "Non-*elegans* *Caenorhabditis* species: resources and methods" Workshop on Ecology & Evolution, 18<sup>th</sup> International *C. elegans* Meeting.
- 2010 "The rise and demise of sex-chromosome systems in sticklebacks." University of Maryland, College Park Behavior, Ecology, Evolution, & Systematics Seminar.
- 2010 "The rise and demise of sex-chromosome systems in sticklebacks." University of Pittsburgh, Ecology and Evolution Seminar Series.
- 2006 "Evolution of sex chromosomes in stickleback fishes." Fourth International Symposium on Vertebrate Sex Determination.

## Poster Presentations

(presenting author)

- 2011 **Ross J**, Koboldt D, Staisch J, Baird S, Chamberlin H, Gupta B, Miller R and Haag E. “The Evolution of Genetic Incompatibility in *Caenorhabditis briggsae*.” Gordon Research Conference: Ecological and Evolutionary Genomics.
- 2011 **Ross J**, Koboldt D, Staisch J, Baird S, Chamberlin H, Gupta B, Miller R and Haag E. “The Evolution of Genetic Incompatibility in *Caenorhabditis briggsae*.” 18<sup>th</sup> International *C. elegans* Meeting.
- 2011 **Ross J**, Dooling R, and Popper A. “Establishing an Association of Post-Docs, by Post-Docs.” 9<sup>th</sup> Annual Meeting of the National Postdoctoral Association.  
\* *Best Poster Award* \*
- 2010 **Ross JA**, Koboldt DC, Staisch JE, Baird SE, Chamberlin HM, Gupta BP, Miller RD and **Haag ES**. “High-density genotyping in *Caenorhabditis briggsae* advanced-intercross recombinant inbred lines reveals unexpected inter-strain genomic incompatibilities.” Evolutionary Biology of *Caenorhabditis* and Other Nematodes.
- 2006 **Bruner A**, **Ross J** and Peichel C. “Evolution of sex determination in stickleback fishes.” Society of Integrative and Comparative Biology.
- 2005 **Ross JA**, Blahm AM and Peichel CL. “Evolution of genetic sex determination in sticklebacks (*Gasterosteus* spp.)” Northwest Reproductive Sciences Symposium. Seattle, Washington.
- 2004 **Ross JA** and Peichel CL. “Evolution of sex determination mechanisms and sex chromosomes in stickleback fish.” EVO-WIBO (Evolutionary Biology Conference of Washington, Idaho, British Columbia, and Oregon).  
\* *Student Presentation Award* \*
- 2003 **Young J**, Shykind B, Lane R, Tonnes-Priddy L, **Ross J**, Walker M, Williams E, Axel R and Trask B. “Odorant receptor ESTs demonstrate olfactory expression of over 400 genes, extensive alternate splicing, and unequal expression levels.” Cold Spring Harbor 68<sup>th</sup> Symposium: The Genome of *Homo Sapiens*.
- 2003 **Ross JA** and Peichel CL. “Evolution of sex determination mechanisms and sex chromosomes in stickleback fish.” American Indian Science and Engineering Society National Conference.  
\* *Best Graduate Student Poster Award* \*
- 2001 **Young JM**, Friedman C, Tonnes-Priddy L, **Ross J**, Lane RP and Trask BJ. “The human and mouse olfactory receptor gene families are shaped by different evolutionary processes.” Cold Spring Harbor Symposium: Genome Sequencing and Biology.

## Funding

- 2010—2012 Ruth Kirschstein NRSA Post-Doctoral Fellowship  
NIH NIGMS 1F32 GM090492
- 2010 Annual Meeting Travel Award, National Postdoctoral Association
- 2004—2007 Cell and Molecular Biology Graduate Training Grant, U. of Washington  
NIH NIGMS T32 GM07270
- 1996—2000 Presidential Scholarship, University of Oregon
- 1999 HHMI Summer Undergraduate Research Fellow

### **Funding, cont.**

1999 Albany, Oregon General Hospital Auxiliary Scholarship  
1996 University of Oregon Alumni Association Scholarship

### **Honors and Awards**

2004 NSF Graduate Research Fellowship Honorable Mention  
1999, 2000 University of Oregon Centurion Awards for Leadership and Service

### **Memberships and Affiliations**

2011—present Genetics Society of America  
2009—present Affiliate Member, National Postdoctoral Association  
1999—present Golden Key National Honor Society  
1998—present Mortar Board National Honor Society  
1996—present Life member, Alpha Phi Omega National Service Fraternity

### **Teaching**

2011 Guest lectures, Principles of Genetics (BSCI 222): “Mitochondria and aging” and “Antibiotic resistance”  
Dr. Thomas Kocher, University of Maryland, College Park  
2011 Course Assistant, Bioethics (CBMG 688B)  
Dr. Anne Simon, University of Maryland, College Park  
2010 Guest discussion section leader, Evolution & Development (BIOL 608D)  
Dr. Alexa Bely, University of Maryland, College Park  
2009 Guest lecture, Developmental Biology (BSCI 430): “Sex determination”  
Dr. Eric Haag, University of Maryland, College Park  
2004 Graduate Teaching Assistant, Gene Structure and Function (GS372)  
Dr. Janet Kurjan, Department of Genome Sciences, U. of Washington

### **Mentoring**

2009—2011 Undergraduate Research Mentor for Ms. Zebib K. Abraham  
2004 Scientist mentor for high-school science teacher Ms. Karen Koenemann  
Science Education Partnership, Fred Hutchinson Cancer Research Center  
2003—2004 High-school Research Mentor for Ms. Shatreen Masshoor

## Outreach

- 2010 Judge, Prince George's County (MD) Kids for Science STEM Fair  
2007 Seminar: "Sex chromosome degeneration: fish and the future of men."  
"Science for Life" public seminar series, Fred Hutchinson CRC
- 2007 External Affairs Outreach committee member, Fred Hutchinson CRC  
2004—2007 Activity Coordinator for "Hutch High", Fred Hutchinson CRC  
2006 Seminar: "Love sees no color: how discriminating fish choose mates."  
Fred Hutchinson CRC Administrative Managers' Forum
- 2005 Seminar: "Embrace diversity by aiding discrimination: Color-blindness,  
science and society." "Science Friday" seminar, Fred Hutchinson CRC
- 2005 University of Washington, Molecular and Cell Biology Student  
Representative, Society for the Advancement of Chicanos and Native  
Americans in Science Annual Meeting.
- 2004 University of Washington, Molecular and Cell Biology Student  
Representative, Annual Biomedical Research Conference for Minority  
Students.
- 2003 Cancer Info Service Volunteer, "Cancer 101," Fred Hutchinson CRC  
2003 University of Washington, Molecular and Cell Biology Student  
Representative, American Indian Science and Engineering Society  
Annual Meeting.

## Professional Service

- 2011 Manuscript peer review, *Evolution*
- 2010 Undergraduate Honors Thesis Committee, Ms. Jane Schulte
- 2010 Manuscript peer review, *Ichthyological Research*
- 2010 Grant proposal review, National Science Foundation
- 2009—2010 Representative, College of Chemical and Life Sciences Dean's Advisory  
Council, University of Maryland, College Park
- 2008—2010 Founding President, UMD College of Chemical and Life Sciences Post-  
Doctoral Association
- 2004—2006 Harold Weintraub Graduate Student Award Selection Committee, Fred  
Hutchinson CRC