

## *Curriculum Vitae*

### **JERAMIAH J. SMITH**

#### **CURRENT ADDRESS**

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#### **EDUCATION**

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Black Hills State University, B.S. in Biology, cum laude, 1998  
Colorado State University, M.S. in Biology, 2002  
University of Kentucky, Ph.D. in Biology, 2007

#### **APPOINTMENTS**

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Undergraduate Research Assistant, Black Hills State University (1996 – 1999)  
Teaching Assistant, Colorado State University (1999 – 2001)  
Research Assistant, Colorado State University (1999 – 2002)  
Research Fellow, University of Kentucky (2002 – 2003, 2006 – 2007)  
Research Assistant, University of Kentucky (2002 – 2007)  
Postdoctoral Fellow, University of Washington Department of Genome Sciences and Benaroya Research Institute at Virginia Mason (2007 – Current)

#### **ACADEMIC HONORS AND AWARDS**

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Black Hills State University Biology Scholarship (1997)  
Graduate Academic Fellowship, University of Kentucky (2002)  
Travel Support: G. Flora Ribble Enrichment Fund (2002 – 2005)  
Graduate Student Support Grant, University of Kentucky (2003)  
Presidential Graduate Fellowship, University of Kentucky (2006)  
UW Genome Training Grant Postdoctoral Fellowship (NIH, T32 – NSRA) (2007)  
UW Genome Training Grant Postdoctoral Fellowship Renewal (NIH, T32– NSRA) (2008)  
Ruth L. Kirschstein NRSA Individual Fellowship (NIH, F32) (2009-2010)

**REFEREED JOURNAL ARTICLES (\* denotes equal contribution for primary authorship)**

- Smith JJ, Stuart A, Sauka-Spengler T, Clifton S, Amemiya CT. (2010) **Development and analysis of a germline BAC resource for the sea lamprey, a vertebrate that undergoes substantial chromatin diminution.** *Chromosoma*. (In Press).
- Saha NR, Smith JJ, Amemiya CT. (2010) **Evolution of adaptive immune recognition in jawless vertebrates.** *Seminars in Immunology*. (Epub ahead of print).
- Fitzpatrick BM, Johnson JR, Kump DK, Smith JJ, Voss SR, Shaffer HB (2010) **Rapid spread of invasive genes into a threatened native species.** *PNAS* (Epub ahead of print).
- Smith JJ, Antonacci F, Eichler EE, Amemiya CT. (2009) **Programmed loss of millions of base pairs from a vertebrate genome.** *PNAS* 106:11212-11217. (This paper was recognized in several news articles, including ScienceNOW.org & Science 26 June 2009: Vol. 324. no. 5935, p. 1631).
- Fitzpatrick BM, Johnson JR, Kump DK, Shaffer HB, Smith JJ and Voss SR (2009) **Rapid fixation of non-native alleles revealed by genome-wide SNP analysis of hybrid tiger salamanders.** *BMC Evolutionary Biology* 9:176.
- Smith JJ, Voss SR. (2009) **Amphibian sex determination: segregation and linkage analysis using members of the tiger salamander species complex (*Ambystoma mexicanum* and *A. t. tigrinum*).** *Heredity* 102:542-548. (This paper was recognized in the issue highlights).
- Smith JJ, Putta S, Zhu W, Pao GM, Verma I, Hunter T, Bryant SV, Gardiner DM, Harkins TT, Voss SR. - (2009) **Genic regions of a large salamander genome contain long introns and novel genes.** *BMC Genomics* 10:19.
- Page RB, Voss SR, Samuels AK, Smith JJ, Putta S, Beachy CK. (2008) **Effect of thyroid hormone concentration on the transcriptional response underlying induced metamorphosis in the Mexican axolotl (*Ambystoma*).** *BMC Genomics* 9: 78.
- Smith JJ, Voss SR. (2007) **Bird and mammal sex chromosome orthologs map to the same autosomal region in a salamander (*Ambystoma*).** *Genetics* 177: 607-613. (This paper was recognized in the issue highlights).
- \* Putta S, Smith JJ, Staben C, Voss SR. (2007) **MapToGenome: a comparative genomic tool that aligns transcript maps to sequenced genomes.** *Evolutionary Bioinformatics Online* 2: 15-25.
- Smith JJ, Voss SR. (2006) **Gene order data from a model amphibian (*Ambystoma*): new perspectives on vertebrate genome structure and evolution.** *BMC Genomics* 7: 219.
- Page RB, Monaghan JR, Samuels AK, Smith JJ, Beachy CK, Voss SR. (2006) **Microarray analysis identifies keratin loci as sensitive biomarkers for thyroid hormone disruption in the salamander *Ambystoma mexicanum*.** *Comparative Biochemistry and Physiology, Part C*. 145: 15-27.

Smith JJ, Kump DK, Walker JA, Parichy DM, Voss SR. (2005) **A comprehensive expressed sequence tag linkage map for tiger salamander and Mexican axolotl: enabling gene mapping and comparative genomics in *Ambystoma*.** *Genetics* **171**: 1161-1171.

\* Voss SR, Smith JJ. (2005) **Evolution of salamander life cycles: A major-effect quantitative trait locus contributes to discrete and continuous variation for metamorphic timing.** *Genetics* **170**: 275-281. (This paper was highlighted by the Faculty of 1000 in Biology, June 2005).

Smith JJ, Putta S, Walker JA, Kump DK, Samuels AK, Monaghan JR, Weisrock DW, Staben C, Voss SR. (2005) **Sal-Site: Integrating new and existing ambystomatid salamander research and informational resources.** *BMC Genomics* **6**: 181.

Samuels AK, Weisrock DW, Smith JJ, France KJ, Walker JA, Putta S, Voss SR. (2005) **Transcriptional and phylogenetic analysis of five complete ambystomatid salamander mitochondrial genomes.** *Gene* **349**: 43-53.

\* Putta S, Smith JJ, Walker JA, Rondet M, Weisrock DW, Monaghan J, Samuels AK, Kump K, King DC, Maness NJ, Habermann B, Tanaka E, Bryant SV, Gardiner DM, Parichy DM, Voss SR. (2004) **From biomedicine to natural history research: EST resources for ambystomatid salamanders.** *BMC Genomics* **5**: 54.

Voss SR, Smith JJ, Gardiner DM, Parichy DM. (2001) **Conserved vertebrate chromosome segments in the large salamander genome.** *Genetics* **158**: 735-746.

## MANUSCRIPTS IN SUBMISSION

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Smith JJ, Saha NR, Amemiya CT. (2010) **Genome Biology of the Cyclostomes and Insights into the Evolutionary Biology of Vertebrate Genomes.** *Integrative and Comparative Biology* (Invited Review in Submission).

Page RB, Boley MA, Smith JJ, Putta S and Voss SR (Submitted) **A Hopeful Monster Reveals Transcriptional Signatures of Adaptive Brain Development and Evolution** (Submitted to *BMC Biology*)

## ACADEMIC SERVICE

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### MENTORING

**University of Washington & Benaroya Research Institute:**

**Graduate Students:** Anne Lyons. **Undergraduate Students:** Nicholas Noll, David German, Jeff Johnson. **Secondary School Students** Lauren Lewis – Internship through the Physician Scientist Training Program.

## MENTORING

### University of Kentucky

**Undergraduates:** D. Kevin Kump - four coauthored publications, Jonathan Hobbs, Shawn Mulberry, Brittany Dixon. **Secondary School Students:** Ryan Will – 1<sup>st</sup> Place, Central Kentucky Regional Science and Engineering Fair, Biochemistry Division 2007.

### Colorado State University

**Undergraduates:** Nicholas J Maness - one coauthored publication, David C. King - one coauthored publication, Rebecca Hart - one coauthored publication.

## SERVICE

**Co-Organizer:** 2008 Genome Training Grant Symposium, Department of Genome Sciences, University of Washington

**Judge:** 2004 science fair at Morton Middle School, Lexington, KY.

## ORAL PRESENTATIONS

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### INVITED PRESENTATIONS

Plant and Animal Genomes Conference, San Diego, CA (2010) **Tight Regulation of Large-Scale Somatic Rearrangement in a Vertebrate Genome** (San Diego, CA)

Black Hills State University, Spearfish, SD (2008) **Deep Evolutionary Perspectives on the Structure of Vertebrate Genomes.**

Centre College, Danville, KY (2006) **Gene Order Data from a Model Amphibian (*Ambystoma*): New Perspectives on Vertebrate Genome Structure and Evolution.**

### INTERNATIONAL MEETINGS

Society for Integrative and Comparative Biology (2010) **Tight Regulation of Large-Scale Genome Rearrangement: The Sea Lamprey (*Petromyzom marinus*).** (Seattle, WA)

Fifth International Symposium on Vertebrate Sex Determination (2009) **The Salamander (*Ambystoma mexicanum*): Perspectives on Very Old and Very Young Sex Chromosomes.** (Kona, Hawaii)

Evolution Meeting (2005) **Evolution of Vertebrate Genomes: Perspectives from Tiger Salamander.** (Fort Collins, Colorado)

Evolution Meeting (2004) **Comparative Genetics of Amphibian Metamorphosis: *Ambystoma tigrinum* Species Complex.** (Fairbanks, Alaska)

## LOCAL MEETINGS

Genetics and Genomics Group of Seattle (2007) **A Salamander Genome: Perspectives on Adaptation and the Evolution of Vertebrate Genomes.** (Fred Hutchison Cancer Institute)

Center for Ecology, Evolution, and Behavior Meeting (2006) **Gene Order Data from a Model Amphibian (*Ambystoma*): New Perspectives on Vertebrate Genome Structure and Evolution.** (U. Kentucky)

Center for Ecology, Evolution, and Behavior Meeting (2005) **Evolution of Paedomorphosis in *Ambystoma*: the *met* QTL.** (U. Kentucky)

Southeastern Ecology, Evolution, and Population Genetics Meeting (2004) **Cross-Species Effects of a Metamorphosis QTL in Ambystomatid Salamanders.** (Swannanoa, North Carolina)

Center for Ecology, Evolution, and Behavior Meeting (2003) **Genetic Analysis of Amphibian Sex Determination.** (U. Kentucky)

## POSTER PRESENTATIONS

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## INTERNATIONAL MEETINGS

The Biology of Genomes (2009) **Megabase-Scale Rearrangements are Tightly Regulated in a Basal Vertebrate Genome.** (Cold Springs Harbor Laboratories)

The Biology of Genomes (2008) **Developmentally Regulated Rearrangement of the Lamprey Genome.** (Cold Springs Harbor Laboratories)

Microevolution of Developmental Processes (2002) **Comparative EST Analysis of Regeneration: Axolotl Limb vs. Zebrafish Fin.** (Indiana University)

Evolution Meeting (2000) **Conserved Chromosomal Segments in the Large Salamander Genome.** (Knoxville, Tennessee)

## LOCAL MEETINGS

Southeastern Ecology, Evolution, and Population Genetics Meeting (2007) **Bird and Mammal Sex Chromosome Orthologs Map to the Same Autosomal Region in a Salamander (*Ambystoma*).** (Tremont, Tennessee)

Southeastern Ecology, Evolution, and Population Genetics Meeting (2005) **The *Ambystoma* Linkage Map: Perspectives on the Evolution of Vertebrate Genomes.** (Hendersonville, North Carolina)

Kentucky EPSCoR (2004) **The *Ambystoma* Linkage Map: Perspectives on the Evolution of Vertebrate Genomes.** (U. Kentucky)

UK Genomics Symposium (2004) **Preliminary Assessment of Orthology and Conserved Synteny of Salamander Genes: Comparisons with Chordate Draft Genomes.** (U. Kentucky)

Kentucky EPSCoR (2003) **Comparative Genomics of Metamorphosis in Ambystomatid Salamanders.** (U. Kentucky)

Southeastern Ecology, Evolution, and Population Genetics Meeting (2003) ***Ambystoma* Genetics: Metamorphic Failure and Sex Determination.** (South Holston Lake, Virginia)