

## Curriculum Vitae

### Victoria E. Prince, Ph.D.

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**Personal** Nationality: American and British citizenship  
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**Education**

Undergraduate	Imperial College, London University, UK BSc. (Hons) Class I 1986
Graduate	National Institute for Medical Research & University College, London University, UK Thesis advisor Dr. Peter Rigby Ph.D 1991
Postdoctoral	UMDS Guy's Hospital, London, UK Supervisor Prof. Andrew Lumsden MRC (UK) Postdoctoral Training Fellow, 1992-1994
Postdoctoral	Princeton University, Department of Molecular Biology Supervisor Prof. Robert Ho EMBO Long Term Postdoctoral Fellow, 1994-1995 HFSP Long Term Postdoctoral Fellow, 1995-1997

### Appointments

Chair, The Committee on Developmental Biology 11/01/2003-present  
Professor 12/01/2008-present  
Associate Professor 07/07/2003-11/31/2008  
Assistant Professor 10/1/1997-2003  
The Department of Organismal Biology and Anatomy,  
Committees on Developmental Biology, Evolutionary Biology, Genetics,  
Neurobiology, and Molecular Metabolism and Nutrition, The University of Chicago.

### Honors and Awards

Medical Research Council (UK) Training Fellowship	1992-1994
EMBO Long-Term Fellowship	1994-1995
Human Frontiers Science Program Fellowship	1995-1997
The Christianna Smith Lecturer, Mount Holyoke College, MA	2005
J & J Neubauer Faculty Development Fellowship in recognition of teaching excellence in the College of The University of Chicago	2006

### Professional Activities

#### Professional Societies

Society for Developmental Biology (USA), 1997- present  
British Society for Developmental Biology, 1992 - present  
Society of Integrative and Comparative Biology, 2000 – present  
Society for Neurobiology, 2003-present

**Session Chair**

International Zebrafish Development and Genetics Meeting, 2000, 2002, 2004  
 Midwest Developmental Biology Meeting 2002, 2004

**Meeting Organizer**

Midwest Regional Zebrafish Meeting, 1999  
 International Zebrafish Development and Genetics Meeting, 2004  
 Midwest Regional Developmental Biology Meeting, 2005, 2007

**Editorial Boards**

*Molecular Development and Evolution*, published in the *Journal of Experimental Zoology*, John Wiley & Sons 1999-present  
*Developmental Dynamics*, John Wiley & Sons 1/2003-present  
*Faculty of 1000, Biology* invited contributing faculty member 2/2003-present

**Reviewer**

6/2009 - Permanent NIH Study Panel Member, Cellular Aspects of Diabetes and Obesity (CADO).  
 10/2005, 6/2006, 2/2007, 10/2008 Ad Hoc NIH panel member Cellular Aspects of Diabetes and Obesity (CADO).  
 2007 Grant reviewer for Alberta Heritage Foundation, Canada.  
 2006 Grant Reviewer for The Royal Society of New Zealand Marsden Fund.  
 2006 Grant Reviewer for the Israeli Science Foundation.  
 10/2005, 10/2006 Ad Hoc NIH panel member Cell Biology and Development Fellowship Program.  
 10/2004 Ad Hoc NIH panel member "DEV-1".  
 3/2003, 4/2004 Ad Hoc NIH panel member "Tools for Genetic Studies in Zebrafish".  
 2000-present Ad Hoc grant reviewer for NSF.  
 4/2008 Intramural NIH Site Visitor NICHD.  
 Frequent reviewer for journals including *Nature*, *Development*, *Developmental Biology*, *Mechanisms of Development*, *Developmental Dynamics*, *J. Exp. Zoology*, *Evolution and Development*, *PNAS*, *Trends in Genetics*, *PLOS* and *Genetics*.

**Publications**

**Original Peer Reviewed Articles**

1. **Prince VE** and Rigby PWJ. 1990. Derivatives of Moloney murine sarcoma virus capable of being transcribed in EC stem cells have gained a functional Spl binding site. *J. Virol.* **65**, 1803-1811.
2. Guthrie S, **Prince V** and Lumsden A. 1993. Selective dispersal of rhombomere cells in orthotopic and heterotopic grafting experiments. *Development* **118**, 527-538.
3. **Prince V** and Lumsden A. 1994. *Hoxa-2* expression in normal and transposed rhombomeres: Independent regulation in the neural tube and neural crest. *Development* **120**, 911-923.
4. Gale E, **Prince V**, Lumsden A, Clarke J, Holder N and Maden M. 1996. Late effects of retinoic acid on neural crest and aspects of rhombomere identity. *Development* **122**, 783-793.
5. **Prince VE**, Moens C, Kimmel CB and Ho RK. 1998. Zebrafish *hox* genes: Expression in wild-type and in mutants of the segmentation gene *valentino*. *Development* **125**, 393-406.
6. **Prince VE**, Joly L, Ekker M and Ho RK. 1998. Zebrafish *hox* genes: Genomic organization and modified colinear expression patterns in the trunk. *Development* **125**, 407-420.
7. **Prince V**, Price A and Ho RK. 1998. *Hox* gene expression reveals regionalization

- along the anteroposterior axis of the zebrafish notochord. *Development, Genes and Evolution*. **208**, 517-522.
8. Amores A, Force A, Yan Y-L, Amemiya C, Fritz A, Ho RK, Joly L, Langeland J, **Prince V**, Wang Y-L, Westerfield M, Ekker M and Postlethwait JH. 1998. Genome duplications in vertebrate evolution: evidence from zebrafish *hox* clusters. *Science* **282**, 1711-1714.
  9. Roy MN, **Prince VE** and Ho RK. 1999. Heat shock produces periodic somitic disturbances in the zebrafish embryo. *Mechanisms of Development* **85**; 27-34.
  10. **Prince VE**, Holley SA, Bally-Cuif L, Prabhakaran B, Ho RK and Vogt TF. 2001. Zebrafish *lunatic fringe* and demarcation of segmental boundaries. *Mechanisms of Development* **105**, 175-180.
  11. Bruce A, Oates A, **Prince VE** and Ho RK. 2001. Additional *hox* clusters in the zebrafish: Divergent expression belies conserved activities of duplicate *hoxB5* genes. *Evolution and Development* **3**, 127-144.
  12. Schilling TF, **Prince VE** and Ingham PW. 2001. Plasticity in zebrafish *hox* expression in the hindbrain and neural crest. *Developmental Biology* **231**, 201-216.
  13. Zerucha T and **Prince VE**. 2001. Cloning and developmental expression of a zebrafish *meis2* homeobox gene. *Mechanisms of Development* **102**, 247-250.
  14. McClintock J, Carlson R, Mann D and **Prince VE**. 2001. Consequences of *Hox* gene duplication in the vertebrates: An investigation of the zebrafish *hox* paralogue group 1 genes. *Development* **128**, 2471-2484.
  15. Hauptmann G, Belting HG, Wolke U, Lunde K, Söll I, Abdelilah-Seyfried S, **Prince V** and Driever W. 2002 *spiel ohne grenzen/pou2* is required for zebrafish hindbrain segmentation. *Development* **129**, 1645-1655.
  16. McClintock J, Kheirbek M and **Prince VE**. 2002. Knock-down of duplicated zebrafish *hoxb1* genes reveals distinct roles in hindbrain patterning and a novel mechanism of duplicate gene retention. *Development* **129**, 2339-2354.
  17. Scemama J-L, Hunter M, Williams NL, McCallum J, **Prince VE** and Stellwag E. 2002. Conservation of vertebrate *Hoxb2* transcriptional regulation. *J. Exp. Zool.* **294**, 285-299.
  18. Stafford D and **Prince VE**. 2002. Retinoic acid signaling is required for a critical early step in zebrafish pancreatic development. *Current Biology* **12**, 1215-1220.
  19. Hunter MP and **Prince VE**. 2002. Zebrafish *Hox* paralogue group 2 genes function redundantly as selector genes to pattern the second pharyngeal arch. *Developmental Biology* **247**, 367-389.
  20. McClintock JM, Jozefowicz C, Assimacopoulos S, Louvi A, Grove EA, and **Prince VE**. 2003. Conserved expression of vertebrate *Hoxa1* genes in neurons at the ventral forebrain/midbrain boundary of vertebrates. *Development, Genes and Evolution* **213**, 399-406.
  21. Hadrys T, **Prince V**, Hunter M, Baker R, and Rinkwitz S. 2004 Comparative analysis of vertebrate *Hoxb3* and *Hoxb4* gene regulatory elements. *J. Exp. Zool.B. Molecular Development and Evolution* **302**, 147-164.
  22. Hale M, Kheirbek M, Schrieffer JE, and **Prince VE**. 2004 The function of Mauthner cell duplicates in startle behavior: Insights into the evolution of new neural circuits. *J. Neurosci.* **24**, 3070-3076.
  23. Stafford D, Hornbruch A, Mueller PR and **Prince VE**. 2004 A conserved role for retinoid signaling in vertebrate pancreas development. *Development, Genes and Evolution* **214**, 432-411.
  24. Hogan BM, Hunter MP, Oates, AC, Crowhurst, MO, Hall, NE, Heath, JK, **Prince VE** and Lieschke, GJ. 2004 Zebrafish *gcm2* is required for gill filament budding from pharyngeal ectoderm. *Developmental Biology* **276**, 508-522.

25. Stafford D, White R, Kinkel, M, Linville A Schilling TF and **Prince VE**. 2006. Retinoids signal directly to zebrafish endoderm to specify insulin-expressing b-cells. *Development* **133**, 949-956.
26. Hadrys T, Punnamoottil B, Pieper M, Kikuta H, Pezeron G, Becker TS, **Prince V**, Baker, R and Rinkwitz S. 2006. Conserved co-regulation and promoter sharing of *hoxb3a* and *hoxb4a* in zebrafish. *Developmental Biology* **297**, 26-43.
27. Hurley IA, Mueller RL, Dunn KA, Schmidt EJ, Friedman M, Ho RK, **Prince VE**, Yang Z, Thomas MG and Coates MI. 2007. A New Time-scale for Ray-Finned Fish Evolution. *Proceedings of the Royal Society B: Biological Sciences* **274**, 489-498.
28. Skromne I, Thorsen D, Hale M, **Prince VE** and Ho, RK. 2007. Repression of the hindbrain developmental program by Cdx factors is required for the specification of the vertebrate spinal cord. *Development* **134**, 2147-2158.
29. Ward AB, Warga RM and **Prince VE**. 2007. Origin of the zebrafish endocrine and exocrine pancreas. *Developmental Dynamics* **236**, 1558-1569.
30. Rohrschneider MR, Elsen GE and **Prince VE**. 2007. Zebrafish *Hoxb1a* regulates multiple downstream targets including *prickle1b*. *Developmental Biology* **309**, 358-372.
31. Hurley IA, Scemama J-L and **Prince VE**. 2007. Consequences of *hoxb1* duplication in teleost fish. *Evolution & Development* **9**, 540-554.
32. Elsen GE, Choi LY, Millen KJ, Grinblat Y and **Prince VE**. 2008. *Zic1* and *Zic4* regulate zebrafish roof plate specification and hindbrain ventricle morphogenesis. *Developmental Biology* **314**, 376-392.
33. Kinkel MD, Eames SC, Alonzo MA and **Prince VE**. 2008. *Cdx4* has multiple roles in pancreas development and is required in the endoderm to correctly localize the foregut. *Development* **135**, 919-929.
34. Kinkel MD, Sefton EM, Mizoguchi, T, Kikuchi, Y and **Prince VE**. 2009. *Cyp26* enzymes function in endoderm to regulate pancreatic field size. *Proc. Natl. Acad. Sci.* **106**, 7864-7869.
35. Elsen, GE, Choi LY, **Prince VE** and Ho RK. The autism susceptibility gene *met* regulates zebrafish cerebellar development and facial motor neuron migration. *Dev Biol.* 2009 in press PMID: 19732764

#### Review Articles (peer reviewed)

- R1. **Prince VE**. 1998. *Hox* genes and patterning the hindbrain. *American Zoology* **38**, 634-646.
- R2. Patel NP and **Prince VE**. 2000. Beyond the *Hox* complex *Genome Biology* **1**, identity. Invited review for *Evolution and development* (in prereviews 1027.1–1027.4).
- R3. Moens CB and **Prince VE**. 2002. Constructing the hindbrain: Insights from the zebrafish. *Developmental Dynamics* **224**, 1-17.
- R4. **Prince VE**. 2002. The *Hox* paradox: More complex(es) than imagined. Invited review, *Developmental Biology* **249**, 1-15.
- R5. Jozefowicz C, McClintock J and **Prince V**. 2003. The fates of zebrafish *Hox* gene duplicates. *J. Struct. Funct. Genomics* **3**, 185-194.
- R6. **Prince VE** and Pickett FB. 2002. Splitting pairs: Diverging fates of duplicated genes. Invited review, *Nature Reviews Genetics* **3**, 827-837.
- R7. Hurley I, Hale, M and **Prince VE**. 2005. Duplication events and the evolution of segmental identity. Invited review for *Evolution and Development* **7**, 556-567.
- R8. Skromne I, and **Prince VE**. 2008. Current perspectives in zebrafish reverse genetics: Moving forward. *Developmental Dynamics* **237**, 861-882.
- R9. Kinkel MD and **Prince VE**. 2009. On the diabetic menu: Zebrafish as a model for pancreas development and function. *Bioessays*. **31**, 139-152.

### Book Chapters

- Ho RK, Kanki JP, **Prince VE**, Joly L, Ekker M and Fritz A. 1998. Patterning of the zebrafish embryo along the anteroposterior axis. Chapter 26, pp 399-414 in *Cell Lineage and Fate Determination*. Ed. S. A. Moody. Academic Press.
- Jozefowicz C, McClintock J and **Prince V**. 2002. The fates of zebrafish Hox gene duplicates. Chapter in *Genome Evolution* Kluwer Academic Publishers.

### Book Reviews

- Kinkel MD and **Prince VE**. 2005. "A grand new view from the embryo". Review of "Endless Forms most Beautiful" by SB Carroll, WW Norton. *Development* **132**: 5133-5135

### Grants - active

- National Institutes of Health (NIDDK) (40% effort)  
*Regionalization of the vertebrate endoderm*  
2RO1DK064973-05  
PI. Victoria E. Prince  
6/1/2003-1/31/2014
- March of Dimes (15% effort)  
*A molecular and cellular investigation of neuronal migration mechanisms*  
FY07-410  
PI. Victoria E. Prince  
06/01/2007-05/30/2010
- National Institutes of Health (NICHD) (15% effort)  
*Training program in developmental biology*  
1T32HD055164-01  
PI Victoria E. Prince  
6/01-2008-4/30/2013