

BIOGRAPHICAL SKETCH

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NAME Jeffrey R. Holt, Ph.D.		POSITION TITLE Associate Professor, University of Virginia School of Medicine	
eRA COMMONS USER NAME			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Wofford College, Spartanburg, SC	B.S.	1986	Biology
University of Rochester School of Medicine, Rochester, NY	M.S.	1992	Physiology
University of Rochester School of Medicine, Rochester, NY	Ph.D.	1995	Physiology
Harvard Medical School and Massachusetts General Hospital, Boston, MA	Post-Doc	1995 - 1999	Neurobiology

Professional Positions

- 1990 – 1995 Graduate Student with Ruth Anne Eatock, Ph.D., Department of Physiology, University of Rochester. Rochester, NY.
- 1995 – 1999 Post-Doctoral Fellow with David P. Corey, Ph.D., Department of Neurobiology, Harvard Medical School, Massachusetts General Hospital and Howard Hughes Medical Institute. Boston, MA.
- 1999 – 2001 Instructor, Department of Neurobiology, Harvard Medical School and Massachusetts General Hospital. Boston, MA.
- 2001 – 2005 Assistant Professor, Department of Neuroscience and Department of Otolaryngology, University of Virginia School of Medicine. Charlottesville, VA.
- 2006 – present Associate Professor (tenured), Department of Neuroscience and Department of Otolaryngology, University of Virginia School of Medicine. Charlottesville, VA.

Professional Activities

Teleconference Reviewer for NIH study section, IFCN5, November, 2003; June, 2005; Feb., 2006.

Ad Hoc reviewer for NIH (NIDCD) IFCN6, March, 2003; AUD, February, 2005; Oct., 2005

Manuscript Reviewer: Nature, Journal of Neuroscience, Journal of Physiology, Journal of Neurophysiology, Neuroscience, Brain Research, Journal of Biological Chemistry, PNAS.

Publications

- J.R. Holt** and R.A. Eatock. 1995. Inwardly rectifying currents of saccular hair cells from the leopard frog. *J. Neurophysiol.* 73:1484-1502.
- W. Denk, **J.R. Holt**, G.M.G. Shepherd, D.P. Corey. 1995. Calcium imaging of single stereocilia in hair cells: Localization of transduction channels at both ends of tip links. *Neuron*, 15:1311-1321.
- J.R. Holt**, D.P. Corey, R.A. Eatock. 1997. Mechanoelectrical transduction and adaptation in hair cells of the mouse utricle, a low-frequency vestibular organ. *J. Neurosci.* 17:8739-8748.
- J.S. Oghalai, **J.R. Holt**, T. Nakagawa, T.M. Jung, N. J. Coker, H.A. Jenkins, R.A. Eatock, W.E. Brownell, Ionic currents and electromotility in human hair cells. *J. Neurophysiol.* 79:2235-2239.
- J.R. Holt**, A. Rüsçh, M. Vollrath, R.A. Eatock. 1998. The frequency dependence of receptor potentials in hair cells of the mouse utricle. *Primary Sensory Neuron* 2:233-241.

6. **J.R. Holt** and D.P. Corey. 1999. Hair cells: Sensory transduction. in *Encyclopedia of Neuroscience* 490: 850-853.
7. **J.R. Holt** and D.P. Corey. 1999. Ion channel defects in hereditary hearing loss. *Neuron* 22:217-219.
8. **J.R. Holt**, D.C. Johns, S. Wang, Z.Y. Chen, E. Marban and D.P. Corey. 1999. Functional expression of exogenous proteins in mammalian sensory hair cells infected with adenoviral vectors. *J. Neurophysiol.* 81:1881-1888.
9. **J.R. Holt**, M. A. Vollrath and R.A. Eatock. 1999. Stimulus processing by type II hair cells of the rodent utricle. *Annals of the New York Academy of Science.* 871:15-26.
10. **J.R. Holt**, and D.P. Corey. 2000 Two mechanisms for transducer adaptation in vertebrate hair Cells. *Proc Natl Acad Sci USA* 97:11730-11735.
11. **J.R. Holt**, S.K.H. Gillespie, D.W. Provance, K. Shah, K.M. Shokat, D.P. Corey, J.A. Mercer, P.G. Gillespie. 2002. A chemical-genetic strategy implicates myosin-1C in adaptation by hair cells. *Cell* 108:371-381.
12. **J. R. Holt**. 2002. Viral-mediated gene transfer to study the molecular physiology of the mammalian inner ear. *Audiol Neurootol* 7:157-160.
13. R.A. Dumont, Y. Zhao, **J.R. Holt**, M. Bahler, P.G. Gillespie. 2002. Myosin-1 isozymes in neonatal rodent auditory and vestibular epithelia. *JARO* 3:375-389.
14. G.S.G. Géléoc & **J.R. Holt**. 2003. Auditory amplification: outer hair cells *pres* the issue. *TINS* 26:115-117.
15. J. C. Colclasure and **J.R. Holt**. 2003. Transduction and adaptation in vestibular hair cells of the mammalian vestibular system. *Gravitational and Space Biology Bulletin* 16:1-11.
16. G.S.G. Géléoc and **J.R. Holt**. 2003. Developmental acquisition of sensory transduction in hair cells of the mouse inner ear. *Nature Neuroscience*, 2003; 6:1019-1020.
17. **J.R. Holt** and D.P. Corey. 2004. Hair Cells: Sensory transduction. *Encyclopedia of Neuroscience*.
18. G.S. Géléoc, J.R. Risner, **J.R. Holt**. 2004. Developmental acquisition of voltage-dependent conductances and sensory signaling in hair cells of the embryonic mouse inner ear. *J. Neurosci.* 24:11148-11159.
19. D.P. Corey*, J. Garcia-Anoveros*, **J.R. Holt***, K.Y. Kwan*, S.Y. Lin*, M.A. Vollrath*, A. Amalfitano, E. Cheung., B.H. Derfler, A. Duggan, G.S.G. Géléoc, P. Gray, M.P. Hoffman, H.L. Rehm, D. Tamasauskas, and D.S. Zhang. 2004. TRPA1 is a candidate for the mechanosensitive transduction channel of vertebrate hair cells. *Nature*. 432:723-730. ***equal contribution**
20. E.A. Stauffer, J. Scarborough, M. Hirono, E.D. Miller, K. Shah, J.A. Mercer, **J. R. Holt**, and P. G. Gillespie. 2005. Fast Adaptation in Vestibular Hair Cells Requires Myosin-1c Activity. *Neuron*. 47:541-553.
21. M. Senften, M. Schwander, P. Kazmierczak, C. Lillo, J.B. Shin, T. Hasson, P.G. Gillespie, D. Williams, G.S.G. Géléoc, **J.R. Holt** and U. Müller. 2006. Functional interaction between protocadherin 15 and myosin VIIa in hair cell stereocilia. *J Neurosci.* 26:2060-2071.
22. J. McGee, R.J. Goodyear, D.R. McMillam, E.A. Stauffer, **J.R. Holt**, K.G. Locke, D.G. Birch, P.K. Legan, P.C. White, E.J. Walsh and G.P. Richardson. 2006. The very large G-protein coupled receptor, VLGR1, a component of the ankle link complex required for the normal development of auditory hair bundles. *J Neurosci.* 26:6543-6553.
23. J.R. Risner J.R. and **J.R. Holt**. 2006. Heterogeneous potassium conductances contribute to the diverse firing properties of postnatal mouse vestibular ganglion neurons. *J Neurophysiol.* 96(5):2364-76.
24. Gillespie, P.G., Scarborough, J.D, Mercer, J.A., Stauffer, E., and **Holt, J.R.** (2006). Fast adaptation in vestibular hair cells depends on myosin-1c. In: *Auditory Mechanisms: Processes and Models*, A.L. Nuttall, World Scientific, Hackensack, NY, pp. 169-175.
25. Oshima K., Corrales E., Grimm C., Senn P., Martinez R., Géléoc G.S.G., Edge A., **Holt, J.R.** and Heller S. 2006. Differential distribution of stem cells in the auditory and vestibular organs of the inner ear *JARO*.