

ROLF KARLSTROM Ph.D.

Department of Biology
Morrill Science Center Box 35810
University of Massachusetts
Amherst, MA 01003-5810
email: karlstrom@bio.umass.edu
tel: (413) 577-3448

EDUCATION and RESEARCH EXPERIENCE

January 1999 to Present: Assistant Professor

Department of Biology
University of Massachusetts, Amherst
Research Focus: Zebrafish Developmental Neurobiology and Genetics

June 1996 to January 1999: Post Doctoral Research

Skirball Institute, Developmental Genetics Program, New York University Medical Center.
Laboratory: Dr. Alexander Schier
Research Focus: Zebrafish Developmental Neurobiology and Genetics

April 1994 to April 1996: Post Doctoral Research

Max-Planck-Institute for Developmental Biology, Tübingen, Germany.
Laboratory: Dr. Friedrich Bonhoeffer
Research Focus: Zebrafish Developmental Neurobiology and Genetics

August 1993 to November 1993: Post Doctoral Research

University of Utah, Salt Lake City, UT.
Laboratory: Dr. Michael Bastiani
Research Focus: Insect Developmental Neurobiology and Molecular Genetics

July 1993: Received Ph.D. in Biology

University of Utah, Salt Lake City, UT.
Laboratory: Dr. Michael Bastiani
Research Focus: Insect Developmental Neurobiology and Molecular Genetics

December 1985: Received B.S. Dual Majors: Biology and Chemistry

Northern Arizona University, Flagstaff, AZ.

September 1980 to May 1982: Reed College, Portland, OR.

Awards and Fellowships:

National Institutes of Health Post Doctoral Fellowship: February 1997 to January 1999.

National Institutes of Health Cancer Program Grant: September 1992 to July 1993.

National Science Foundation Graduate Fellow: September 1988 to August 1991.

Undergraduate Honors: Summa Cum Laude, Phi Beta Kappa

University of Massachusetts Lilly Teaching Fellowship Award

PUBLICATIONS

- Culverwell, J, and Karlstrom, R.O. (2002) Making the connection: Retinal axon guidance in the zebrafish. **Sem. Cell and Developmental Biol.** **13(6):497-506.**
- Sbrogna, J.L., Barresi, M.J.F., and Karlstrom, R.O. (2003) Multiple roles for hedgehog signaling in zebrafish pituitary development. **Developmental Biol.** **254(1):19-35**
- Karlstrom, R.O., Tyurina, O., Kawakami, A., Talbot, W.S., Sasaki, H., and Schier, A.F. (2003) Genetic analysis of zebrafish *gli1* and *gli2* reveals divergent requirements for *gli* genes in vertebrate development. **Development** **130**, 1549-1564
- diIorio, P, Moss, J.B., Sbrogna, J.L, Karlstrom, R.O., and Moss, L.G (2002) Sonic hedgehog is required early in pancreatic islet development. **Developmental Biology** **244**: 75-84
- Kondoh, H., Ukhikawa, M., Yoda, H., Takeda, H., Furutani-Seiki, M., and Karlstrom, R.O. (2000) Zebrafish mutations in gli-mediated hedgehog signaling lead to lens transdifferentiation from the adenohypophysis anlage. **Mechanisms of Development** **96**: 165-174.
- Karlstrom, R.O., Talbot, W.S, and Schier, A.F. (1999) Synteny cloning of zebrafish *you-too*: Mutations in the hedgehog target *gli2* affect ventral forebrain patterning. **Genes and Development** **13**, 388-393.
- Karlstrom, R.O., Trowe, T., and Bonhoeffer, F. (1997) *Genetic Analysis of Axon Guidance in the Zebrafish.* **Trends in Neurosciences.** **20**, 3-8. (review)
- Karlstrom, R.O., Trowe, T., Klostermann, S., Baier, H., Brand, M., Crawford, A.D., Grunewald, B., Haffter, P., Hoffmann, H., Meyer, S.U., Müller, B., Richter, S., van Eeden, F.J.M., Nüsslein-Volhard, C., and Bonhoeffer, F. (1996) *Zebrafish mutations affecting retinotectal axon pathfinding.* **Development** **123**, 427-438.
- Baier, H., Klostermann, S., Trowe, T., Karlstrom, R.O., Nüsslein-Volhard, C. and Bonhoeffer, F. (1996). *Genetic dissection of the retinotectal projection.* **Development** **123**, 415-425.
- Brand, M., Heisenberg, C.-P., Beuchle, D., Jiang, Y.-J., Karlstrom, R.O., Warga, R.M., Pelegri, F., van Eeden, F.J.M., Furutani-Seiki, M., Granato, M., Haffter, P., Hammerschmidt, M., Kane, D. A., Kelsh, R.N., Mullins, M.C., Odenthal, J. and Nüsslein-Volhard, C. (1996). *Mutations affecting development of the spinal chord and general body shape during zebrafish embryogenesis.* **Development** **123**, 129-142.
- Trowe, T., Klostermann, S., Baier, H., Granato, M., Crawford, A.D., Grunewald, B., Hoffmann, H., Karlstrom, R.O., Meyer, S.U., Richter, S., Nüsslein-Volhard, C. and Bonhoeffer, F. (1996). *Mutations disrupting the ordering and topographic mapping of axons in the retinotectal projection of the zebrafish, Danio rerio.* **Development** **123**, 439-450.
- Karlstrom, R.O., Wilder, L.P., and Bastiani, M.J. (1993) *Lachesin: An immunoglobulin superfamily protein whose expression correlates with neurogenesis and axon outgrowth in grasshopper embryos.* **Development** **118**, 509-522.
- Karlstrom, R.O. (1993). *Characterization and cloning of Lachesin: a novel immunoglobulin superfamily molecule whose expression correlates with segmentation and neurogenesis during insect development.* Ph.D. Dissertation. University of Utah.
- Bastiani, M.J., de Couet, H.G., Quinn, J.M.A., Kotrla, K.J., Karlstrom, R.O., Goodman, C.S., and Ball, E.E. (1992) *Transient and dynamic expression of the MEG protein during development of the grasshopper embryo.* **Developmental Biology** **154**, 129-142.
- Seaver, E.C., Karlstrom, R.O., and Bastiani, M.J. (1991) *The restricted spatial and temporal expression of a nervous-system-specific antigen involved in axon outgrowth during development of the grasshopper.* **Development** **111**, 881-893.

Zafaralla, G.C., Ramilo, C., Gray, W.R., Karlstrom, R.O., Olivera, B.M., and Cruz, L. (1988) *Phylogenetic specificity of cholinergic ligands: alpha-conotoxin S1*. **Biochemistry** 27, 7102-7105.

Video Time-lapse

Karlstrom, R.O., and Kane, D.A. (1996) *A time-lapse flip-book of zebrafish development*. **Development** 123, 2-460.