

Curriculum Vitae – P. Robin Hiesinger

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1. UNDERGRADUATE AND GRADUATE EDUCATION			
From - To	Institution	Specialization	Degree
1992- 1994	Albert-Ludwig-University of Freiburg, Germany	Biology	Vordiplom (~ B.Sc.)
1994- 1996	Albert-Ludwig-University of Freiburg, Germany	Examination (<i>Grade</i>): Neurobiology (1.0), Molecular Genetics (1.3), Cell Biology (1.0), Philosophy (1.0)	Diploma (M.Sc.)
01.1997-12.1997	Laboratory K.-F. Fischbach, Albert-Ludwig-University of Freiburg, Germany	Diploma Thesis (<i>Grade</i>): "Investigations on the Dependence of Drosophila Optic Lobe Development on Neuronal Activity"(1.0)	
01.1998-08.2000	Laboratory K.-F. Fischbach, Albert-Ludwigs-University of Freiburg, Germany	Thesis: "Wiring the Drosophila Brain: Genetic Dissection of Late Neuronal Development and Computational Visualization of Brain Structure"	PhD
09.1999-12.1999	Laboratory I. A. Meinertzhagen, Dalhousie University, Halifax, Canada	(<i>Thesis 1.1; Examination 1.0</i>)	

2. POSTDOCTORAL TRAINING		
2000 - 2002	Laboratory H. J. Bellen Howard Hughes Medical Institute, Baylor College of Medicine, Houston, USA	EMBO Postdoctoral Fellow
2003 -	Laboratory H. J. Bellen Howard Hughes Medical Institute, Baylor College of Medicine, Houston, USA	HHMI Research Associate

3. AWARDS		
1996-2000	BMBF Pre-doctoral Position and Equipment <i>together with K.-F. Fischbach</i>	3D Reconstruction of Wild Type and Mutant Brains of <i>Drosophila Melanogaster</i>
1999	Boehringer Ingelheim grant 3 months Halifax, Canada	Ultrastructural Investigations on the Role of Synaptic Machinery during Brain Development in <i>Drosophila</i>
2000-2002	EMBO Long Term Fellowship	Investigation of the Molecular Machinery Essential for the Establishment of Neuronal Connectivity prior to Neuronal Activity

4. EXTRACURRICULAR TRAINING / EXPERIENCE	
1991-1992	Military Service, Wuppertal and Düsseldorf, Germany
1993-1995	Student Member of the Faculty Executive Committee (Fakultätsrat) of the Department of Biology, University of Freiburg
1996-1997	Student Member of the Diploma Examination Committee (Diplomprüfungsausschuss) of the Department of Biology, University of Freiburg
1995-1997	Assistant (wissenschaftliche Hilfskraft) at the Computing Center of the University of Freiburg (Administration of www.uni-freiburg.de)
1995-1997	Assistant (wissenschaftliche Hilfskraft) at the Library of the University of Freiburg (Programming for the electronic journal/database www.flybrain.org)
1996-1997	Co-Founder of the internet company Aktiv!NETZ GbR
1997-1998	Co-Founder and acting partner of Aktiv!NETZ Internet Presentations GmbH

5. PUBLICATIONS AND PRESENTATIONS

Original Research Papers (primary publications only, most recent first)

- Hiesinger, P.R.**, Fayyazuddin, A., Mehta, S.Q., Rosenmund, T., Schulze, K.L., Zhai, R.G., Verstreken, P., Cao, Y., Zhou, Y., Kunz, J., and Bellen, H.J. (2005). The v-ATPase V₀ subunit is required for a late step in synaptic vesicle exocytosis in *Drosophila*. *Cell* 121, 607-620. *Cover article*.
Preview in Cell 121, 496-497. Bajjalieh, S. A new view of an old pore.
- Mehta, S.Q.*, **Hiesinger, P.R.***, Beronja, S., Zhai, R.G., Schulze, K.L., Verstreken, P., Cao, Y., Zhou, Y., Tepass, U., Crair, M.C., and Bellen, H.J. (2005). Mutations in *Drosophila sec15* reveal a function in neuronal targeting for a subset of exocyst components. *Neuron* 46, 219-232. **co-first authors*
Preview in Neuron 46, 164-166. Clandinin, T.R. Surprising twists to exocyst function.
- Bellen, H.J., Levis, R.W., Liao, G., He, Y., Carlson, J.W., Tsang, G., Evans-Holm, M., **Hiesinger, P.R.**, Schulze, K.L., Rubin, G.M., Hoskins, R.A., and Spradling, A.C. (2004). The BDGP gene disruption project: single transposon insertions associated with 40% of *Drosophila* genes. *Genetics* 167, 761-781.
- Fabian-Fine, R., Verstreken, P., **Hiesinger, P.R.**, Horne, J.A., Kostyleva, R., Zhou, Y., Bellen, H.J., and Meinertzhagen, I.A. (2003). Endophilin promotes a late step in endocytosis at glial invaginations in *Drosophila* photoreceptor terminals. *J. Neurosci.* 23, 10732-10744. *Cover article*.
- Verstreken, P., Koh, T.-W., Schulze, K.L., Zhai, R.G., **Hiesinger, P.R.**, Zhou, Y., Mehta, S.Q., Cao, Y., Roos, J., and Bellen, H.J. (2003). Synaptojanin is recruited by Endophilin to promote synaptic vesicle uncoating. *Neuron* 40, 733-748.
Preview in Neuron 40, 665-667. Song, W. and Zinsmaier, K.E. Endophilin and Synaptojanin hook up to promote synaptic vesicle endocytosis.
- Zhai, R.G.*, **Hiesinger, P.R.***, Koh, T.-W., Verstreken, P., Schulze, K.L., Cao, Y., Jafar-Nejad, H., Norga, K.K., Pan, H., Bayat, V., Greenbaum, M.P., and Bellen, H.J. (2003). Mapping *Drosophila* mutations with molecularly defined *P* element insertions. *Proc. Natl. Acad. Sci. USA* 100, 10860-10865. **co-first authors*
Featured Highlight in Nature Reviews Genetics 4, 849. Casci, T. I can name it in three...
- Kango-Singh, M., Nolo, R., Tao, C., Verstreken, P., **Hiesinger, P.R.**, Bellen, H.J., and Halder, G. (2002). Shar-pei mediates cell proliferation arrest during imaginal disc growth in *Drosophila*. *Development* 129, 5719-5730. *Cover article*.
- Pennetta, G., **Hiesinger, P.R.**, Fabian-Fine, R., Meinertzhagen, I.A., and Bellen H.J. (2002). *Drosophila* VAP-33A directs bouton formation at neuromuscular junctions in a dosage-dependent manner. *Neuron* 35, 291-306. *Cover article*.

- Morales, J., **Hiesinger, P.R.**, Schroeder, A.J., Kume, K., Verstreken, P., Jackson, F.R., Nelson, D.L., and Hassan, B.A. (2002). *Drosophila* Fragile X protein, DFXR, regulates neuronal morphology and function in the brain. **Neuron** 34, 961-972.
- Hiesinger, P.R.***, Scholz, M.*, Meinertzhagen, I.A., Fischbach, K.-F., and Obermayer, K. (2001). Visualization of synaptic markers in the optic lobe neuropils of *Drosophila* using a new constrained deconvolution method. **J. Comp. Neurol.** 429, 277-288. **co-first and corresponding authors*
- Rein, K.*, **Hiesinger, P.R.***, Zoeckler, M., Kirsten, J., Fischbach, K.-F., and Heisenberg, M. (2000). Three-dimensional reconstruction of the *Drosophila* larval and adult brain. **Flybrain**, www.flybrain.org, Accession Number AB00120 **co-first authors*.
- Hiesinger, P.R.**, Reiter, C., Schau, H., and Fischbach, K.-F. (1999). Neuropil pattern formation and regulation of cell adhesion molecules in *Drosophila* optic lobe development depend on synaptobrevin. **J. Neurosci.** 19, 7548-7556. *Cover article*.
- Laissue, P.P., Reiter, C., **Hiesinger, P.R.**, Halter, S., Fischbach, K.-F., and Stocker, R.F. (1999). Three-dimensional reconstruction of the antennal lobe in *Drosophila melanogaster*. **J. Comp. Neurol.** 405, 543-552.

Original Research Papers (in revision, submitted or in preparation):

- Fayyazuddin, A., Zaheer, M., **Hiesinger, P.R.**, and Bellen, H.J. (in revision, *PLoS Biology*). *giant fiber A (gfA)* encodes a nicotinic acetylcholine receptor that mediates synaptic transmission in the giant fiber circuit of *Drosophila*.
- Hiesinger, P.R.***, Zhai, R.G.*, Zhou, Y., Koh, T.-W., Mehta, S.Q., Verstreken, P., Schulze, K.L., Cao, Y., Fischbach, K.-F., Meinertzhagen, I.A., and Bellen, H.J. (submitted to *Nature*). Activity-independent prespecification of synaptic partners in the visual map of *Drosophila*. **co-first authors*
- Zhai, R.G., Cao, Y., **Hiesinger, P.R.**, Mehta, S.Q., Schulze, K.L., Verstreken, P., Zhou, Y. and Bellen, H.J. (submitted to *Cell*). *Drosophila* NMNAT is required to maintain neuronal integrity and overexpression protects from activity-induced and SCA1-induced neurodegeneration.
- Hiesinger, P.R.**, Mehta, S.Q., Zhai, R.G., Cao, Y., Zhou, Y., Meinertzhagen, I.A., and Bellen, H.J. Mutations in *vha100-1* and *n-syb* reveal cell-specific sorting of cell adhesion molecules required for neuronal targeting. In preparation.

Reviews & Book Chapters

- Hiesinger, P.R.** and Bellen H.J. (2004). Flying in the face of total disruption. **Nature Genetics** 36, 211-212.
- Meinertzhagen, I.A. and **Hiesinger, P.R.** (2004). Visual system development, invertebrates. **Elsevier's Encyclopedia of Neuroscience**
- Hiesinger, P.R.** (2000). Ultrastructural investigation of the role of synaptic machinery during brain development in *Drosophila*. **Futura - Boehringer Ingelheim Fonds Journal** 15, 297-300.
- Hiesinger, P.R.** and Fischbach, K.-F. (2000). Hochauflösende und dreidimensionale Visualisierung der Gehirnentwicklung von *Drosophila*. **BioSpektrum**. 5/2000, 408-412.
- Hiesinger, P.R.** (2000). The evolution of the millenium bug. **Riv. Biol./Biology Forum** 93, 169-174.

Conference Talks / Invited Seminars (*selected, most recent first*)

- Hiesinger, P.R.** (2005). A genetic approach to synapse formation and function in *Drosophila*. **MRC Cambridge**, UK, December 2005.
- Hiesinger, P.R.** (2005). A genetic approach to synapse formation and function in *Drosophila*. **UT Dallas Southwestern**, Department of Physiology, October 2005. (Host: Helen Yin)
- Hiesinger, P.R.** (2005). Activity-independent pre-specification of synaptic partners in the visual map of *Drosophila*. **Neurobiology of Drosophila Conference, Cold Spring Harbor**, NY, October 2005.
- Hiesinger, P.R.** (2005). The role of vesicle trafficking in synaptic specification. **IMP/Institute for Molecular Biotechnology, Vienna**, Austria, May 17 2005 (Host: Juergen Knoblich).
- Hiesinger, P.R.**, Fayyazuddin, A., Mehta, S.Q., Rosenmund, T., Schulze K.L., Zhai, R.G., Verstreken, P., Cao, Y., Zhou, Y., Kunz, J., and Bellen, H.J. (2005). The v-ATPase V₀ subunit a1 is required for a late step in synaptic vesicle exocytosis in *Drosophila*. **46th Drosophila Research Conference**, San Diego, CA, March 2005
- Hiesinger, P.R.** (2005). Synaptic specificity and vesicle trafficking: the V₀ and exocyst complexes in *Drosophila*. **Max-Planck Institute for Experimental Medicine**, Göttingen, February 21 2005 (Host: Nils Brose).
- Hiesinger, P.R.** (2004). The role of the V₀ v-ATPase complex in synaptic transmission. **Gordon Conference - Cell Biology of the Neuron**, New London, NH, June 20-25 2004.
- Hiesinger, P.R.** (2004). Vesicle trafficking and synaptic specificity: the V₀ and exocyst complexes in *Drosophila* visual neurons. **EMBO Fellows Meeting, Heidelberg**, Germany, June 11-14 2004.
- Hiesinger, P.R.** (2004). Mutational analysis of synaptic specificity in the *Drosophila* visual system. **Gordon Conference - Visual System Development**, Bristol, RI, June 6-11 2004.
- Hiesinger, P.R.** (2004). High-resolution real-time 3D visualization of confocal image data. **Zeiss Confocal Imaging Symposium**, Baylor College of Medicine, Houston, TX, May 19-20 2004.
- Hiesinger, P.R.**, Mehta, S.Q., Fayyazuddin, A., Zhai, R.G., Schulze, K.L., Verstreken, P., Cao, Y., Zhou, Y., Koh, T.-W., Meinertzhagen, I.A., Kunz, J., and Bellen, H.J. (2003). Identification and characterization of *dirty mind* reveal crucial roles of the v-ATPase V₀ complex in synapse formation and function. **Neurobiology of Drosophila Conference, Cold Spring Harbor**, NY, October 1-5 2003, Abstract Book p.109
- Meinertzhagen, I. A. and **Hiesinger, P. R.** (2002). Synaptic specification and synapse formation in the *Drosophila* visual system. **Gordon Conference - Visual System Development**, Salve Regina University, Newport, RI, June 9-14 2002
- Hiesinger, P.R.** (2000). Optic lobe development depends on synaptic machinery. **Department of Zoology, University of Cambridge**, UK (Hosts: Michael Bate and Richard Baines).
- Hiesinger, P.R.**, Schau, H., Reiter, C., and Fischbach, K.-F. (1999). Optic lobe development depends on synaptic machinery. **Neurobiology of Drosophila Conference, Cold Spring Harbor**, NY, October 6-10 1999
- Hiesinger, P. R.**, Reiter, C., Schau, H., and Fischbach, K.-F. (1999). Neuropil pattern formation and the regulation of cell adhesion molecules in the developing *Drosophila* optic lobe after axonal pathfinding, **27th Göttingen Neurobiology Conference 1999**; Volume I, Thieme 1999, No 133
- Hiesinger, P.R.** and Fischbach, K.-F. (1996). Utilizing WWW and 3D technologies for an educational tour of the *Drosophila* nervous system. **Multimedia in Health Science Education, Copenhagen**, Denmark

For PDF reprints, journal covers, conference abstracts and online publications please see:

<http://flypush.imgen.bcm.tmc.edu/lab/robin/cv-hiesinger.html>