

## Curriculum vitae

- Name:** Prof. Dr. Stephan C.F. Neuhauss
- Date of birth:** February 27th, 1967 in Ulm, Germany
- Education:**
- 1987 - 1990 Studies in Biology, Eberhard-Karls-Universität Tübingen
  - 1990 - 1992 Studies in Biology, University of Oregon, Eugene (USA)
  - 1992 Studies in Biology, Eberhard-Karls-Universität Tübingen
- Research Experience:**
- 1990 - 1992 Graduate Student in Molecular Biology, University of Oregon (Laboratory of Monte Westerfield)
  - 1992 - 1996 Research Associate at the Massachusetts General Hospital / Harvard Medical School, Charlestown, Massachusetts, USA, (Laboratory of Wolfgang Driever)
  - 1996 Scientist, Max-Planck-Institut für Developmental Biology, Tübingen (Department Prof. Friedrich Bonhoeffer)
  - 2000 - 2003 Junior Group Leader, Brain Research Institute, ETH Zürich
  - 2003 Swiss National Science Foundation Professorship in Neuroscience at the ETH Zürich
  - 2005 Professor for Neurobiology, Institute of Zoology, University Zürich
- Degrees:**
- 1992 Master of Science, University of Oregon, "Early Development of Germ Cells and Alkaline Phosphatase Activity in Zebrafish Embryos"
  - 1992 Biology Diploma, Eberhard-Karls Universität Tübingen
  - 1996 PhD in Biology, Eberhard-Karls Universität Tübingen, "Craniofacial Development in Zebrafish (Danio rerio): Mutational Analysis, Genetic Characterization, and Genomic Mapping"
  - 2002 Habilitation for General Genetics at the Eberhard-Karls Universität Tübingen
- Awards:**
- Friedrich Ebert Stiftung, Auslandsstipendium, 1990-1992
  - Friedrich Ebert Stiftung, Grundförderung, 1992
  - European Molecular Biology Organisation (EMBO) Young Investigator Award 2002
  - Swiss National Science Foundation Professorship in Neuroscience 2003

Zürich, February 1st, 2008

## Peer Reviewed Publications

(\* corresponding authorships)

Fleisch, VC, Schonthaler, H., v. Lintig, J, **Neuhauss\***, **SCF**(2008). Subfunctionalization of a retinoid binding protein provides evidence for two parallel visual cycles in the cone-dominant zebrafish retina. *Development* 135, 387-399

Hodel, C, **Neuhauss**, **SCF\*** (2008). Computer-based Analysis of the Optokinetic Response in Zebrafish Larvae. *Cold Spring Harbor Protocols* 10.1101 prot4961

Fleisch, VC, Jametti T, **Neuhauss**, **SCF\*** (2008). Electroretinogram (ERG) Measurements in Larval Zebrafish. *Cold Spring Harbor Protocols* 10.1101 prot4973

Huang, YY, **Neuhauss**, **SCF\*** (2008). The optokinetic response in zebrafish and its applications. *Frontiers in Bioscience* 13, 1899-1916

Schonthaler, H., Fleisch, VC, Biehlmaier, O, Makhankov`YM, Rinner, O, Bahadori, R, Schwarz, H, **Neuhauss\***, **SCF**, Dahm, R (2008). The zebrafish mutant *leberknödel/vam6* resembles human multi-systemic disorders caused by aberrant trafficking of endosomal vesicles. *Development* 135, 387-399

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Schonthaler, H. B., Lampert, J. M., Isken, A., Rinner, O., Mader, A., Gesemann, M., Oberhauser, V., Golczak, M., Biehlmaier, O., Palczewski, K.,**Neuhauss**, **SCF\***, v. Lintig\*, J, (2007). Evidence for RPE65-independent vision in the cone-dominated zebrafish retina. *European Journal of Neuroscience* 26, 1940-1949.

Biehlmaier, O., Makhankov, Y., **Neuhauss\***, **SCF**. Impaired retinal differentiation and maintenance in zebrafish laminin mutants (2007). *Investigative Optical and Visual Science* 48: 2887-2894

Geisler R, Rauch GJ, Geiger-Rudolph S, Albrecht A, van Bebber F, Berger A, Busch-Nentwich E, Dahm R, Dekens MP, Dooley C, Elli AF, Gehring I, Geiger H, Geisler M, Glaser S, Holley S, Huber M, Kerr A, Kirn A, Knirsch M, Konantz M, Kuchler AM, Maderspacher F, **Neuhauss SC**, Nicolson T, Ober EA, Praeg E, Ray R, Rentzsch B, Rick JM, Rief E, Schauerte HE, Schepp CP, Schonberger U, Schonthaler HB, Seiler C, Sidi S, Sollner C, Wehner A, Weiler C, Nusslein-Volhard C. (2007). Large-scale mapping of mutations affecting zebrafish development. *BMC Genomics*. Jan 9;8:11.

Huang, Y-Y, Rinner, O, Hedinger, P, Liu, S-C, **Neuhauss\***, **SCF** (2006). Oculomotor instabilities in zebrafish mutant *belladonna*: A behavioral model for congenital nystagmus due to axon pathfinding defects. *Journal of Neuroscience*, 26: 9873-9880

Bahadori, R, Biehlmaier, O, Zeitz, C, Labhart, L, Makhankov`YV, Forster, U, Gesemann, M, Berger, W, **Neuhauss\***, **SCF** (2006). Nyctalopin is essential for synaptic transmission in the cone dominated zebrafish retina. *European Journal of Neuroscience* 24: 1664-1674

Konrad, K, Schaller, A., Seelow, D, Pandey, AV, Waldegger, S, Lesslauer, A, Vitzthum, H, Suzuki, Y, Luk, M, Becker, C, Schlingmann, KP, Schmid, M, Rodriguez-Soriano, J, Ariceta, G, Cano, F, Enriquez, R, Jueppner, H, Bakkaloglu, SA, Hediger, MA, Gallati, S, **Neuhauss**, **SCF**, Nürnberg, P, Weber, S. (2006). Mutations in the tight junction gene claudin 19 (*CLDN19*) are associated with renal magnesium wasting, renal failure and severe ocular involvement. *American Journal of Human Genetics* 79: 949-956

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Kallivretaki, K, Eggen, R, **Neuhauss**, **SCF**, Alberti, M, Kausch, M, Segner, H. (2006). Aromatase in zebrafish: a potential target for endocrine disrupting chemicals. *Marine Environmental Research* 62 Suppl 1:S187-90

Hodel, C, **Neuhauss\***, **SCF**, Biehlmaier\*, O (2006). Time course and development of light adaptation processes in the outer zebrafish retina. *Anatomical Records A* 288 (6): 653-662

- Fleisch, V, **Neuhauss\***, **SCF** (2006). Visual Behavior in Zebrafish. *ZEBRAFISH* 3 (2): 191-201
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- Seth, A., Culverwell, J., Walkowicz, M., Toro, S., Rick, J.M., **Neuhauss**, **S.C.**, Varga, Z.M., and Karlstrom, R.O. (2006) belladonna/(lhx2) is required for neural patterning and midline axon guidance in the zebrafish forebrain. *Development*. 133(4):725-735
- Rinner, O, Makhankov, YM, Biehlmaier, O, **Neuhauss\***, **SCF** (2005). Knockdown of Cone-Specific Kinase GRK7 in Larval Zebrafish Leads to Impaired Cone Response Recovery and Delayed Dark Adaptation. *Neuron* 47, 231-242
- Schonthaler, HB, Lampert, JM, von Lintig, J, Schwarz, H, Geisler, R, **Neuhauss\***, **SCF** (2005). A mutation in the *pmel17* gene leads to defects in melanosome biogenesis and alterations the visual system in the zebrafish mutant *fading vision*. *Developmental Biology* 284, 231-242
- Trueb, B, **Neuhauss**, **SCF**, Baertschi, S, Rieckmann, T, Taeschler S (2005). Fish possess multiple copies for FGFR1, the gene for a novel FGF receptor. *Biochimica et Biophysica Acta – Gene Structure and Function* 1727, 65-74
- Seiler C, Finger-Baier, KC, Rinner, O, Makhankov YV, **Neuhauss**, **SCF**, Nicolson, T (2005). Duplicated genes with slit functions: independent roles of protocadherin 15 orthologues in zebrafish hearing and vision. *Development* 132, 615-623
- Rinner, O, Rick, JM, **Neuhauss\***, **SCF** (2005). Contrast Sensitivity, Spatial and Temporal Tuning of the Larval Zebrafish Optokinetic Response. *Investigative Optical and Visual Sciences* 46, 137-142
- Makhankov, YV, Rinner, O, **Neuhauss\***, **SCF** (2004). An inexpensive device for non-invasive electroretinography in small aquatic vertebrates. *Journal of Neuroscience Methods* 135, 205-210
- Bahadori, R, Huber, M, Rinner, O, Seeliger, MW, Geiger-Rudolph, S, Geisler, R, **Neuhauss\***, **SCF** (2003). Retinal function and morphology in two zebrafish models of oculo-renal syndrome. *European Journal of Neuroscience* 18 (6): 1377-1386
- Neuhauss\***, **SCF**, Seeliger, MW, Schepp, CP, Biehlmaier, O (2003). Retinal defects in the zebrafish *bleached* mutant. *Documenta Ophthalmologica* 107, 71-78
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- Biehlmaier, O, **Neuhauss**, **SCF\***, and Kohler, K\* (2003). Double cone dystrophy and RPE degeneration in the retina of the zebrafish *gnn* mutant. *Investigative Optical and Visual Sciences* 44: 1287-1298
- Neuhauss\***, **S.C.F.** (2003). Behavioral Genetic Approaches to Visual System Development in Zebrafish, *Journal of Neurobiology* 54, 148-160
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- Rick, J, Horschke, I, and **Neuhauss\***, **SCF**, (2000) Optokinetic behavior is reversed in achiasmatic mutant zebrafish larvae, *Current Biology*, 10, 595-598

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Marlow, F., Zwartkuis, F., Malicki, J., **Neuhauss, S. C. F.**, Abbas, L., Weaver, M., Driever, W., and Solnicakrezel, L. (1998). Functional interactions of genes mediating convergent extension, knypek and trilobite, during the partitioning of the eye primordium in zebrafish. *Developmental Biology* 203, 382-399.

Talbot, W. S., Egan, E. S., Gates, M. A., Walker, C., Ullmann, B., **Neuhauss, S. C. F.**, Kimmel, C. B., and Postlethwait, J. H. (1998). Genetic-analysis of chromosomal rearrangements in the cyclops region of the zebrafish genome. *Genetics* 148, 373-380.

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Schier, A. F., **Neuhauss, S. C. F.**, Helde, K. A., Talbot, W. S., and Driever, W. (1997). The one-eyed pinhead gene functions in mesoderm and endoderm formation in zebrafish and interacts with no tail. *Development* 124, 327-42.

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Malicki, J., **Neuhauss, S. C. F.**, Schier, A. F., Solnica-Krezel, L., Stemple, D. L., Stainier, D. Y., Abdelilah, S., Zwartkuis, F., Rangini, Z., and Driever, W. (1996). Mutations affecting development of the zebrafish retina. *Development* 123, 263-73.

Schier, A. F., **Neuhauss, S. C. F.**, Harvey, M., Malicki, J., Solnica-Krezel, L., Stainier, D. Y., Zwartkuis, F., Abdelilah, S., Stemple, D. L., Rangini, Z., Yang, H., and Driever, W. (1996). Mutations affecting the development of the embryonic zebrafish brain. *Development* 123, 165-78.

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Abdelilah, S., Mountcastle-Shah, E., Harvey, M., Solnica-Krezel, L., Schier, A. F., Stemple, D. L., Malicki, J., **Neuhauss, S. C. F.**, Zwartkuis, F., Stainier, D. Y., Rangini, Z., and Driever, W. (1996). Mutations affecting neural survival in the zebrafish *Danio rerio*. *Development* 123, 217-27.

Malicki, J., Schier, A. F., Solnica-Krezel, L., Stemple, D. L., **Neuhauss, S. C. F.**, Stainier, D. Y., Abdelilah, S., Rangini, Z., Zwartkuis, F., and Driever, W. (1996). Mutations affecting development of the zebrafish ear. *Development* 123, 275-83.

Pack, M., Solnica-Krezel, L., Malicki, J., **Neuhauss, S. C. F.**, Schier, A. F., Stemple, D. L., Driever, W., and Fishman, M. C. (1996). Mutations affecting development of zebrafish digestive organs. *Development* 123, 321-8.

Solnica-Krezel, L., Stemple, D. L., Mountcastle-Shah, E., Rangini, Z., **Neuhauss, S. C. F.**, Malicki, J., Schier, A. F., Stainier, D. Y., Zwartkuis, F., Abdelilah, S., and Driever, W. (1996). Mutations affecting cell fates and cellular rearrangements during gastrulation in zebrafish. *Development* 123, 67-80.

Stainier, D. Y., Fouquet, B., Chen, J. N., Warren, K. S., Weinstein, B. M., Meiler, S. E., Mohideen, M. A., **Neuhauss, S. C. F.**, Solnica-Krezel, L., Schier, A. F., Zwartkuis, F., Stemple, D. L., Malicki, J., Driever, W., and Fishman, M. C. (1996). Mutations affecting the formation and function of the cardiovascular system in the zebrafish embryo. *Development* 123, 285-92.

Stemple, D. L., Solnica-Krezel, L., Zwartkuis, F., **Neuhauss, S. C. F.**, Schier, A. F., Malicki, J., Stainier, D. Y., Abdelilah, S., Rangini, Z., Mountcastle-Shah, E., and Driever, W. (1996). Mutations affecting development of the notochord in zebrafish. *Development* 123, 117-28.

Brockerhoff, S. E., Hurley, J. B., Janssen-Bienhold, U., **Neuhauss, S. C. F.**, Driever, W., and Dowling, J. E. (1995). A behavioral screen for isolating zebrafish mutants with visual system defects. *Proceedings of the National Academy of Sciences of the United States of America* 92, 10545-9.

#### **Popular Science / non- peer reviewed articles:**

**Neuhauss, SCF** (2008): Biochemie der Zapfen. *BIOforum* 2, 38-40

**Neuhauss, SCF** (2006). Genetische Einblicke in die Funktion des Zebrafisch-Sehsystems. *BIOspektrum* 12 (1); 26-29

**Neuhauss, SCF** (2006). Zebrafische als neues Tiermodell für opthalmologische Forschung. *Ophta* 10 (2), 40-45

**Neuhauss, SCF** and Benz, B. (2002). Forschen mit Fischen. *Gehirn und Geist* 3, 78-81

**Neuhauss, SCF** and Benz, B. (2003). Sehtests im Fischkino. *Bulletin der ETH Zürich* 288, 8-10