

Dr. Matthias Weiss



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05/09/1972, Salmünster

Head of junior department

SCIENTIFIC VITA

- 1992 – 1995 Student in the Physics Dept., University Frankfurt/Main
- 1995 – 1997 Student in the Physics Dept., University Heidelberg
- 1997 Diploma in Physics
- 1997 – 2001 PhD student, MPI for Fluid Dynamics, Dept. of Nonlinear Dynamics, Göttingen
- 2000 PhD in physics (summa cum laude)
- 2001 – 2003 EMBO Long Term Fellow at the EMBL Heidelberg
- 2003 – 2004 Research Assistant Professor at the MEMPHYS Center for Biomembrane Physics, Odense, Denmark
- 2004 - now Head of junior department, German Cancer Research Center, Heidelberg

FIELDS OF INTEREST

Membrane and protein traffic (in particular in the secretory pathway), transport processes in and across membranes, biogenesis of organelles, non-equilibrium properties of membranes, advanced light microscopy techniques, mesoscopic simulations

CURRENTLY FUNDED PROJECTS

The group and its projects is currently funded by the DKFZ and the BIOMS initiative

Currently supervision of 2 doctoral theses

PUBLICATIONS (10 selected publications since 2002):

Forster, R., **M. Weiss**, T. Zimmermann, E. G. Reynaud, F. Verissimo, D. J. Stephens, and R. Pepperkok. 2006. Secretory cargo regulates the turnover of COPII subunits at single ER exit sites. *Curr. Biol.* **16**: 173-9.

Jakobsen, A. F., O. G. Mouritsen, and **M. Weiss**. 2005. Close-up view of the modifications of fluid membranes due to phospholipase A₂. *J. Phys. Condens. Matter* **17**: S4015-S4024.

Weiss, M. 2004. Challenges and artifacts in quantitative photobleaching experiments. *Traffic* **5**: 662-71.

Weiss, M., and T. Nilsson. 2004. In a mirror dimly: tracing the movements of molecules in living cells. *Trends Cell. Biol.* **14**: 267-73.

Weiss, M., M. Elsner, F. Kartberg, and T. Nilsson. 2004. Anomalous subdiffusion is a measure for cytoplasmic crowding in living cells. *Biophys. J.* **87**: 3518-24.

Weiss, M. 2003. Stabilizing Turing patterns with subdiffusion in systems with low particle numbers. *Phys. Rev. E* **68**: 036213.

Weiss, M., and T. Nilsson. 2003. A kinetic proof-reading mechanism for protein sorting. *Traffic* **4**: 65-73.

Weiss, M., H. Hashimoto, and T. Nilsson. 2003. Anomalous protein diffusion in living cells as seen by fluorescence correlation spectroscopy. *Biophys. J.* **84**: 4043-52.

Elsner, M., H. Hashimoto, J. C. Simpson, D. Cassel, T. Nilsson, and **M. Weiss**. 2003. Spatiotemporal dynamics of the COPI vesicle machinery. *EMBO Rep* **4**: 1000-4.

Kottos, T., and **M. Weiss**. 2002. Statistics of resonances and delay times: A criterion for metal-insulator transitions. *Phys. Rev. Lett.* **89**: 056401.