

Biographical sketch Prof. Dr. Thomas G. Oertner**Personal data**

Name: Oertner, Thomas Glenn
 Academic title: Prof. Dr. rer. nat.
 Date of birth: 17 February 1968
 Affiliation: Institute for Synaptic Physiology,
 Center for Molecular Neurobiology Hamburg (ZMNH),
 University Medical Center Hamburg-Eppendorf,
 Falkenried 94, 20251 Hamburg, Germany
 Phone: +49 40 7410 58228
 Fax: +49 40 7410 58364
 Email: thomas.oertner@zmnh.uni-hamburg.de
 Current position: Director, Institute for Synaptic Physiology
 Professor for Neuroscience (W3)

Academic education

1997 – 2000 PhD thesis at the Friedrich-Miescher-Laboratory of the Max-Planck-Society,
 Tübingen (Thesis advisor: Alexander Borst)
 1992/93 Year abroad at the University of Edinburgh (Scotland, UK)
 1989 – 1996 Studies of Biology, Albert-Ludwigs University, Freiburg (Germany)

Academic degrees

02/2000 PhD in Neurobiology, University of Tübingen (Germany)
 12/1996 Diploma in Biology, University of Freiburg (Germany)

Postgraduate career

10/2011 - present Full Professor of Neuroscience (W3),
 Director of the Institute for Synaptic Physiology at the Center for Molecular
 Neurobiology Hamburg (Germany)
 10/2009 – 09/2011 Senior Scientist (tenure) at the Friedrich Miescher Institute for Biomedical
 Research (FMI) in Basel (Switzerland)
 06/2003 – 10/2009 Research group leader at the FMI Basel
 01/2000 – 05/2003 Research Associate at Cold Spring Harbor Laboratory, New York (USA)
 with Karel Svoboda

Other academic functions and honors

2009 – present Member of the editorial boards of *Frontiers in Cellular Neuroscience* and
Frontiers in Synaptic Neuroscience.
 2008 - 2009 Leader of an Interdisciplinary Pilot Project supported by the Swiss Initiative
 in Systems Biology (SystemsX.ch)
 2006 - present Lecturer at the PENS Training Center 'Imaging brain function'
 2005 - present Member of the Faculty of the 'Neurobiology' course at the Marine Biological
 Laboratory in Woods Hole, Massachusetts (USA)
 2004 - 2008 Scientific Advisor of the Facility for Advanced Imaging and Microscopy at
 FMI Basel (Switzerland)
 2000 - 2001 Recipient of a fellowship by the Swartz Foundation for Computational
 Neuroscience
 1997 - 2000 Member of the Graduiertenkolleg Neurobiologie Tübingen

Most important publications

- D. Huber, D.A. Gutnisky, S. Peron, D.H. O'Connor, J.S. Wiegert, L. Tian, T.G. Oertner, L.L. Looger, K. Svoboda (2012) Multiple dynamic representations in the motor cortex during sensorimotor learning. *Nature* 484(7395): 473-8.
- A. Berndt, P. Schoenenberger, J. Mattis, K.M. Tye, K. Deisseroth, P. Hegemann, T.G. Oertner (2011) High-efficiency Channelrhodopsins for fast neuronal stimulation at low light levels. *Proc Natl Acad Sci USA* 108(18):7595-600.
- N. Holbro, A. Grunditz, J.S. Wiegert, and T.G. Oertner (2010) AMPA receptors gate spine Ca(2+) transients and spike-timing-dependent potentiation. *Proc Natl Acad Sci USA* 107(36):15975-80.
- N. Holbro, A. Grunditz, T.G. Oertner (2009) Differential distribution of endoplasmic reticulum controls metabotropic signaling and plasticity at hippocampal synapses. *Proc Natl Acad Sci USA* 106(35): 15055-60.
- A. Grunditz, N. Holbro, L. Tian, Y. Zuo, T.G. Oertner (2008) Spine neck plasticity controls postsynaptic calcium signals through electrical compartmentalization. *Journal of Neuroscience* 28(50): 13457-66.
- Y.P. Zhang, N. Holbro, T.G. Oertner (2008) Optical induction of plasticity at single synapses reveals input-specific accumulation of α CaMKII. *Proc Natl Acad Sci USA* 105(33): 12039-12044.
- Y.P. Zhang, T.G. Oertner (2007) Optical induction of synaptic plasticity using a light-sensitive channel. *Nature Methods* 4(2):139-41.
- R. Vigot, S. Barbieri, H. Bräuner-Osborne, R. Turecek, R. Shigemoto, Y.P. Zhang, R. Lujan, L.H. Jacobson, B. Biermann, J.M. Fritschy, C.M. Vacher, M. Müller, G. Sansig, N. Guetg, J.F. Cryan, K. Kaupmann, M. Gassmann M, T.G. Oertner, B. Bettler (2006) Differential compartmentalization and distinct functions of GABA(B) receptor variants. *Neuron* 50(4): 589-601.
- E.A. Nimchinsky, R. Yasuda, T.G. Oertner, K. Svoboda (2004) The number of glutamate receptors opened by synaptic stimulation in single hippocampal spines. *Journal of Neuroscience* 24: 2054-64.
- T.G. Oertner, B.L. Sabatini, E.A. Nimchinsky, K. Svoboda (2002) Facilitation at single synapses probed with optical quantal analysis. *Nature Neuroscience* 5(7): 657-64.
- B.L. Sabatini, T.G. Oertner, and K. Svoboda (2002) The life cycle of Ca²⁺ ions in dendritic spines. *Neuron* 33: 439-52.