

## Curriculum Vitae

### Michael Frotscher



Institute for Structural Neurobiology  
Center for Molecular Neurobiology (ZMNH)  
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### Education and Professional Experience

Since May 2011 - Hertie Professor for Neuroscience, Center for Molecular Neurobiology Hamburg (ZMNH), Institute for Structural Neurobiology (ISN)  
1989-2011 - Professor of Neuroanatomy, Inst. of Anatomy & Cell Biol., Univ. of Freiburg  
1983-1989 - Associate Professor (C3), Inst. of Anatomy, Univ. of Frankfurt/Main  
1985 - Visiting Professor, Dept. of Obstetrics & Gynecol., Yale Univ, New Haven  
1982 - Assistant Professor (C2) Inst. of Anatomy & Cell Biol., Univ. of Heidelberg  
1981 - Habilitation, Univ. of Frankfurt (advisors: Prof. R. Hassler, Prof. H. Braak)  
1979-1981 - Research Fellowship, Max Planck Inst. for Brain Research, Frankfurt/Main  
1974-1979 - Scientific Assistant, Inst. of Anatomy, Humboldt University, Berlin  
1974 - Postdoc, 1st Dept. of Anatomy, Semmelweis Univ., Budapest, Hungary  
1974 - Dr. med., Humboldt University, Berlin (advisor: Prof. W. Kirsche)  
1966-1973 - Study of medicine, Humboldt University, Berlin

### Research Fields

Development and plasticity of hippocampal connections, neuronal migration, structure and function of central synapses.

### Activities in the scientific community, honors, awards

2013 - Jacob Henle Medal of the University of Göttingen  
2011 - Fellow of the American Association for the Advancement of Science  
2009 - Dr. honoris causa, Univ. of Frankfurt/Main  
2009 - DFG Senate for SFBs  
2007 - Hertie Senior Professor for Neuroscience

2007 - Senator, Section of Neuroscience, German Academy of Sciences Leopoldina  
2006 - Dean for Research, Medical Faculty, Univ. of Freiburg  
2004 - Vice Chairman, Neuroscience Panel, DFG  
2002 - Ernst Jung Award for Medical Research  
2001 - Research Prize of Baden-Württemberg  
2000 - Max Planck Award for International Cooperation  
1999 - President of the German Anatomical Society  
1998 - Feldberg Award (Feldberg Foundation for Anglo-German Scientific Exchange)  
1995 - Member of the German Academy of Sciences Leopoldina  
1995 - Coordinator SFB 505  
1993 - President of the German Neuroscience Society (NWG)  
1993 - Leibniz Award of the Deutsche Forschungsgemeinschaft (DFG)  
1992 - Wolfgang Bargmann Prize  
1992 - Coordinator SFB 325

#### **Editorial Boards (present and past):**

J Neurosci, J Comp Neurol, Neuroscience, Eur J Neurosci, Exp Neurol, Hippocampus, Exp Brain Res, Restor Neurol Neurosci, Cell Tiss Res, Anat Embryol, Cells Tissues Organs, Neuroforum, Adv Anat Embryol Cell Biol, Brain Structure and Function, Frontiers Neurosci

#### **The most important publications:**

1. Guzman SJ, Schlögl A, **Frotscher M**, Jonas P Science. Synaptic mechanisms of pattern completion in the hippocampal CA3 network (2016) Science 353(6304):1117-23. doi: 10.1126/science.aaf1836.
2. Studer D, Zhao S, Chai X, Jonas P, Graber W, Nestel S, **Frotscher M** (2014) Capture of activity-induced ultrastructural changes at synapses by high-pressure freezing of brain tissue. Nature Protoc 9:1480-1495.
3. Hellwig S, Hack I, Kowalski J, Brunne B, Jarowyj J, Unger A, Bock HH, Junghans D, **Frotscher M** (2011) Role for Reelin in neurotransmitter release. J Neurosci 31:2352-2360.
4. **Frotscher M** (2010) Role for Reelin in stabilizing cortical architecture. Trends Neurosci 33:407-414.
5. Chai X, Förster E, Zhao S, Bock HH, **Frotscher M** (2009) Reelin stabilizes the actin cytoskeleton of neuronal processes by inducing n-cofilin phosphorylation at serine3. J Neurosci 29:288-299.
6. Förster E, Zhao S, **Frotscher M** (2006) Laminating the hippocampus. Nature Rev

Neurosci 7:259-267.

7. Förster E, Tielsch A, Saum B, Weiss KH, Johanssen C, Graus-Porta D, Müller U, **Frotscher M** (2002) Reelin, Disabled 1, and beta1 integrins are required for the formation of the radial glial scaffold in the hippocampus. Proc Natl Acad Sci (USA) 99:13178-13183.
8. Vida I, **Frotscher M** (2000) A hippocampal interneuron associated with the mossy fiber system. Proc Natl Acad Sci USA 97:1275-1280.
9. Markram H, Lübke J, **Frotscher M**, Sakmann B (1997) Regulation of synaptic efficacy by coincidence of postsynaptic APs and EPSPs. Science 275:213-215.
10. Del Río JA, Heimrich B, Borrell V, Förster E, Drakew A, Alcántara S, Nakajima K, Miyata T, Ogawa M, Mikoshiba K, Derer P, **Frotscher\*** M, Soriano E\* (1997) A role for Cajal-Retzius cells and reelin in the development of hippocampal connections. Nature 385:70-74. \*equal contribution.
11. **Frotscher M**, Heimrich B (1993) Formation of layer-specific fiber projections to the hippocampus in vitro. Proc Natl Acad Sci USA 90:10400-10403.