

Jörg Geiger

Charité - Universitätsmedizin Berlin
Institute of Neurophysiology
Charitéplatz 1 | D-10117 Berlin
Phone: +49 (0)30 450-539730
Email: joerg.geiger@charite.de



Curriculum vitae

since 2009	Professor (W3), Institute of Neurophysiology, Charité
2002 - 2009	Independent research group leader (C3), "Synaptic Regulation and Function", Max Planck Institute for Brain Research, Frankfurt, funded by Hertie Foundation
1998 - 2002	Assistant Professor (C1), Physiology, Institute of Physiology 1, University of Freiburg
1996 - 1998	Postdoctoral fellow (Advisor: Prof. P. Jonas), Department of Physiology 1, University of Freiburg
1996	Dr. rer. nat., University of Freiburg
1995 - 1996	Predocotrual fellow (Prof. P. Jonas), Department of Physiology 1, University of Freiburg
1993 - 1995	Fellowship, Graduate School of Molecular and Cellular Neurobiology, University of Heidelberg
1993 - 1995	Dissertation (Advisor: Prof. Dr. P. Jonas), Max Planck Institute for Medical Research (Department of Prof. Dr. B. Sakmann)
1992	Diploma in Biology, Freie Universität Berlin 1986 - 1992 Studies in Biology, Freie Universität Berlin

Research fields

Our group is active in the field of cellular neurophysiology with the following major areas:

- Coding principles in mammalian cortical axons
- Physiology of cortical nerve terminals
- Physiology and plasticity of GABAergic interneurons
- Neurophysiology underlying neurological and psychiatric disorders such as Alzheimer's disease, schizophrenia, and attention deficit disorders

Activities in the scientific community, honors, awards

- 2001 Du Bois-Reymond Award, Deutsche Physiologische Gesellschaft, for excellent work on function of presynaptic boutons

Selected publications

Alle H, Kubota H, Geiger JR. Sparse but highly efficient Kv3 outpace BKCa channels in action potential repolarization at hippocampal mossy fiber boutons. J Neurosci. 2011;31(22):8001-12.

Alle H, Roth A, Geiger JR. Energy-efficient action potentials in hippocampal mossy fibers. Science (New York, NY. 2009;325(5946):1405-8.

- Madry C, Betz H, Geiger JR, Laube B. Supralinear potentiation of NR1/NR3A excitatory glycine receptors by Zn²⁺ and NR1 antagonist. *Proceedings of the National Academy of Sciences of the United States of America*. 2008;105(34):12563-8.
- Alle H, Geiger JR. Analog signalling in mammalian cortical axons. *Curr Opin Neurobiol*. 2008;18(3):314-20.
- Alle H, Geiger JR. GABAergic spill-over transmission onto hippocampal mossy fiber boutons. *J Neurosci*. 2007;27(4):942-50.
- Alle H, Geiger JR. Combined analog and action potential coding in hippocampal mossy fibers. *Science (New York, NY)*. 2006;311(5765):1290-3.
- Alle H, Jonas P, Geiger JR. PTP and LTP at a hippocampal mossy fiber-interneuron synapse. *Proceedings of the National Academy of Sciences of the United States of America*. 2001;98(25):14708-13.
- Geiger JR, Jonas P. Dynamic control of presynaptic Ca²⁺ inflow by fast-inactivating K⁽⁺⁾ channels in hippocampal mossy fiber boutons. *Neuron*. 2000;28(3):927-39.
- Geiger JR, Lubke J, Roth A, Frotscher M, Jonas P. Submillisecond AMPA receptor-mediated signaling at a principal neuron-interneuron synapse. *Neuron*. 1997;18(6):1009-23.
- Geiger JR, Melcher T, Koh DS, Sakmann B, Seeburg PH, Jonas P, Monyer H. Relative abundance of subunit mRNAs determines gating and Ca²⁺ permeability of AMPA receptors in principal neurons and interneurons in rat CNS. *Neuron*. 1995;15(1):193-204.