

## Ursula Koch

Freie Universität Berlin Institute of Biology  
Takustr. 6 | D-14195 Berlin  
Phone: +49 (0)30 838-56976  
Email: ursula.koch@fu-berlin.de



### Curriculum vitae

since 2012	Professor (W2), Neurophysiology, Freie Universität Berlin
2007 - 2012	Lecturer Graduate School of Systemic Neuroscience, Ludwig-Maximilians Universität München
2004 - 2007	Research Assistant, Department of Biology II, Ludwig-Maximilians Universität München
2001 - 2004	Max-Planck Research Fellow, Max Planck Institute of Neurobiology, Martinsried
1999 - 2000	Feodor-Lynen Postdoctoral Research Fellow, University College London
1995 - 1998	PhD Thesis, Ludwig-Maximilians Universität München
1993 - 1994	Diplom Thesis, New York University
1989 - 1993	Studies in Biology, University of Tübingen

### Research fields

Our group is interested in the development and function of the auditory system. Our specific interests are:

- Molecular determinants for the development of auditory brainstem neural networks
- Development and function of voltage-gated ion channels (especially HCN-channels) in the auditory brainstem
- Neural network development in Fragile X Syndrom
- Physiology of auditory processing disorders

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

1999 - 2000	Feodor-Lynen Fellowship (Alexander von Humboldt Foundation)
2004 - 2007	Fellowship by the German Federal Ministry of Education and Research (BMBF)

### Selected publications

Gessele N, Garcia-Pino E, Omerbasic D, Park TJ, Koch U. Structural Changes and Lack of HCN1 Channels in the Binaural Auditory Brainstem of the Naked Mole-Rat (*Heterocephalus glaber*). PLoS One. 2016;11(1):e0146428.

Caspari F, Baumann VJ, Garcia-Pino E, Koch U. Heterogeneity of Intrinsic and Synaptic Properties of Neurons in the Ventral and Dorsal Parts of the Ventral Nucleus of the Lateral Lemniscus. Front Neural Circuits. 2015;9:74.

Baumann VJ, Lehnert S, Leibold C, Koch U. Tonotopic organization of the hyperpolarization-activated current (I<sub>h</sub>) in the mammalian medial superior olive. *Front Neural Circuits*. 2013;7:117. doi: 10.3389/fncir.2013.00117. PubMed PMID: 23874271; PubMed Central PMCID: PMC3708513.

Walcher J, Hassfurth B, Grothe B, Koch U. Comparative posthearing development of inhibitory inputs to the lateral superior olive in gerbils and mice. *J Neurophysiol*. 2011;106(3):1443-53.

Hassfurth B, Grothe B, Koch U. The mammalian interaural time difference detection circuit is differentially controlled by GABAB receptors during development. *J Neurosci*. 2010;30(29):9715-27.

Koch U, Magnusson AK. Unconventional GABA release: mechanisms and function. *Curr Opin Neurobiol*. 2009;19(3):305-10.

Hassfurth B, Magnusson AK, Grothe B, Koch U. Sensory deprivation regulates the development of the hyperpolarization-activated current in auditory brainstem neurons. *Eur J Neurosci*. 2009;30(7):1227-38.

Werthat F, Alexandrova O, Grothe B, Koch U. Experience-dependent refinement of the inhibitory axons projecting to the medial superior olive. *Dev Neurobiol*. 2008;68(13):1454-62.

Magnusson AK, Park TJ, Pecka M, Grothe B, Koch U. Retrograde GABA signaling adjusts sound localization by balancing excitation and inhibition in the brainstem. *Neuron*. 2008;59(1):125-37.