

Curriculum vitae - Benedikt Grothe

Prof. Dr. Benedikt Grothe, Chair of Neurobiology
Program Director, Graduate School of Systemic Neurosciences
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and

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Germany

Member of the Bavarian Academy of Science (since 2007)
Fellow of the Max Planck Society (since 2014)
Member of the German National Academy of Sciences, Leopoldina (since 2016)

Date of Birth April 08, 1960

Scientific Career

2014 – present	Fellow of the Max Planck Society
2010 – present	Coordinator/Spokesman, DFG Collaborative Research Center 870 “ <i>Assembly and Function of Neuronal Circuits</i> ”
2009 – 2011	Dean, Faculty of Biology
2006 – present	Director, Graduate School of Systemic Neurosciences (GSN ^{LMU})
2005 – present	Founder and Spokesman, Munich Center for Neurosciences (MCN ^{LMU})
2004 – 2007	Acting Director (Chair), Department Biology II, LMU
2003 – present	Professor of Neurobiology, Department Biology II, LMU
1999 – 2003	Research Group Leader, Max Planck Institute of Neurobiology, Martinsried
1994 – 1998	Assistent/Oberassistent (equivalent to Ass. Prof.), Zoologisches Institut, LMU
1992 – 1993	Postdoc, New York University, Center for Neural Sciences (Dan. H. Sanes)
1991	Postdoc, University of Texas at Austin (George D. Pollak)
1990-1991	Curator (tenured), Natural History Museum Munich

Academic Education

1996	Habilitation (Zoology), Privatdozent (indep. lecturer) for Zoology, LMU Munich
1988 – 1991	PhD Dissertation (Dr.rer.nat., Faculty of Biology, LMU) Munich
1983 – 1988	Dipl. Biol., LMU, Munich

Academic Job Offers and Short Lists

1998	Assist. Prof (Tenure-Track), University of Washington, Department of Biological Structure, Seattle, USA
2000	Secundo loco, Professor (Chair), Animal Physiology, University of Regensburg
2002	Full Professor, Lund University, Biology, Sweden
2002	Reader, University College London, Department of Cell and Developmental Biology, UK
2002	Secundo loco, Professor (Chair), Université de Fribourg, Medical Center, Switzerland

2003	Professor (Chair), Johan Wolfgang Goethe-Universität Frankfurt a.M., Physiologie der Medizin, Germany
2007	Director, Parmenides Foundation. Pullach, Germany
2011	Co-Director and Head of Department, Leibniz-Institute for Age Research, Jena, Germany
2015	Full Professor, University of Queensland, Medical Center & Queensland Brain Institute, Australia
2017	Director and Professor, UCL Ear Institute, University College London, UK

Major Research Interests

>100 publications in the area of systemic and auditory neuroscience.

Structure and function of neuronal circuits processing spatio-temporal information, their evolution and development.

Methods in the lab include: comparative electrophysiology *in vitro* and *in vivo*, pharmacology, laser-uncaging, optogenetics, comparative anatomy and immunohistochemistry, animal and human psychophysics

Selected publications

- Stange-Marten A, Sinclair JL, Fischl MJ, Kopp-Scheinflug C, Pecka M, **Grothe B** (2017) Structural and functional adaptations for fast and precise inhibition: constant synaptic delays and accelerated action potential conduction velocity related to sound localization of low frequency sounds. *Proc Nat Acad Sci USA*, 114(24): E4851–E4858
- Ford, MC, Alexandrova O, Cossell L, Stange-Marten A, Sinclair J, Kopp-Scheinflug C, Pecka M, Attwell D, **Grothe B** (2015) Tuning of Ranvier node and internode properties in myelinated axons to adjust action potential timing. *Nature Commun* 25;6:8073
- Danek AH, Öllinger M, Fraps T, Grothe B, Flanagan VL (2015) An fMRI investigation of expectation violation in magic tricks. *Front Psychology* 4;6:84
- Danek AH, Fraps T, von Müller A, Grothe B, Öllinger M (2014) It's a kind of magic – what self-reports can reveal about the phenomenology of insight problem solving. *Front Psychol* 8;5:1408
- Myoga MH, Lehnert S, Leibold C, Felmy F, **Grothe B** (2014) Precise Timing of Glycinergic Inhibition Controls Coincidence Detection in the Auditory Brainstem. *Nature Commun* 7;5:3790
- Grothe B**, Pecka M, McAlpine D (2010) Mechanisms of sound localization in mammals. *Physiol Rev* 90:983-1012
- Magnusson AK, Park TJ, Pecka M, **Grothe B**, Koch U (2008) Retrograde GABA signaling adjusts sound localization by balancing excitation and inhibition in the brainstem. *Neuron* 59:125–137 (equal contributions BG&UK)
- Grothe B** (2003) New roles for synaptic inhibition in sound localization. *Nature Rev Neurosci* 4: 540-550
- Brand A, Behrend O, Marquardt T, McAlpine D, **Grothe B** (2002) Precise inhibition is essential for microsecond interaural time difference coding. *Nature* 417: 543-547
- Kapfer C, Seidl AH, Schweizer H, **Grothe B** (2002) Experience-dependent refinement of inhibitory inputs to auditory coincidence-detector neurons. *Nature Neurosci* 5: 247-253
- Grothe B**, Sanes DH (1994) Synaptic inhibition influences the temporal coding properties of medial superior olivary neurons: an *in vitro* study. *J Neurosci* 14(3):1701-1709
- Grothe B**, Vater M, Casseday JH, Covey E (1992) Monaural interaction of excitation and inhibition in the medial superior olive of the mustached bat: an adaptation for biosonar. *Proc Nat Acad Sci USA* 89: 5108-5112

Honours and other pieces of evidence of qualification

- 1990 Junior research award of the *German Zoological Society (DZG)*
- 1992 DFG-Research-Fellowship
- 2000 Research Award of the *German Audiological Society (DGA)*
- 2003 – 2008 Editor Journal of Comparative Physiology A
- 2005 – Board Member, *Munich Center for Computational Neurosciences BCCN*
- 2005 – Board Member, *Munich Competence Center for Ethics (MKE)*
- 2007 Heller Lecture (Guest of honour and keynote speaker) Center for Brain Sciences, Hebrew University, Jerusalem)
- 2007 – elected member of the *Bavarian Academy of Science*
- 2007-10 Editor, *PLoS ONE*
- 2006 – Faculty Director, *AMGEN* Scholars Programme (LMU)
- 2011-15 Board of Trustees, *Körper-Stiftung* (Foundation), Hamburg, Germany

- 2007-14 Director at the *Parmenides Foundation*, Pullach, Germany
- 2007-09 LMU strategic council
- 2008-11 Scientific Advisory Board (Chair), *Max Planck Institute of Neurological Research, Cologne*
- 2013 Host, 106th Annual Meeting of the German Zoological Society/*Deutsche Zoologische Gesellschaft (DZG)* 13.–16. September 2013, LMU München
- 2009-14 Board of Trustees, *Max Planck Institutes of Neurobiology & of Biochemistry, Martinsried*
- 2009 – Editorial Board, *Hearing Research*
- 2010 Order of Merit of the Federal Republic of Germany
- 2013 – Advisory board „Zukunft der Lehre“, *Goethe University Frankfurt a.M.*, Germany;
- 2014 – Fellow of the *Max Planck Society*, Germany
- 2015 – Editorial Board Member, *Neuroforum*
- 2016 Host, 8. European Conference of Comparative Neurobiology (LMU und Bayerischen Akademie der Wissenschaften) 07.-09. April 2016
- 2016 – elected Member of the *National Academy of Sciences, Leopoldina*
- 2017 – Advisory Board/Beirat (Chair) of *Biotopia – Naturkundemuseum Bayern* (Bavarian Museum of Natural History), Munich, Germany

Most important research and teaching collaborations

- 2004 – present BMBF- Bernstein Center for Computational Neurosciences Munich, *BCCN* (PI; vice-coordinator 2004 –present)
- 2006 – present Founder and Speaker of Munich Center for Neuroscience - Brain and Mind, *MCN^{LMU}*
- 2004 – 2014 DFG-GRK 1091 (graduate program) “Orientation and Motion in Space” (PI and vice-coordinator)
- 2005 – 2015 DFG-GRK 1373 (int. graduate program) “Brain signalling: from neurons to circuits” (PI)
- 2010 – present Founder and Speaker of DFG-SFB 870 (Collaborative Research Center) “Assembly and Function of Neuronal Circuits in Sensory Processing” (speaker and PI)
- 2006 – present Initiator and Head of “M.Sc. Neuroscience”, Master program funded by Elite Network of Bavaria
- 2006 – present Founder and Director of Graduate School of Systemic Neurosciences, *GNS^{LMU}* funded by German Excellence Initiative (2006-2019)
- 2009 – 2019 “Integrated research and treatment center IFB^{LMU}: Center for vestibular and ocular motor disorders” (PI and board member)
- 2012 – 2019 PI at ExcellenceCluster “Systems Neurology” SyNergy (PI); spokesman Christian Haass;