UNIVERSITÄT DES SAARLANDES

Curriculum Vitae **Frank Kirchhoff**
June 2014

Date and place of birth November 1, 1960; Despetal/Barfelde, Germany
Legal Status married; two daughters

Affiliation Full Professor (W3) and Head of the Department of Molecular Physiology
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Scientific Education and Employment

since 2009	Full Professor (W3) and Head of the Department of Molecular Physiology, University of Saarland, Homburg, Germany
2009	Offer of a W3 full professorship at the University of Bonn and a research group at the Caesar research center, Bonn (declined)
2000-2009	Research Group Leader, Max Planck Institute of Experimental Medicine, Göttingen
1997-2008	Lecturer at the Free University of Berlin
1997	Habilitation in Biochemistry, Free University of Berlin
1995-1999	Research Assistant, Cellular Neurosciences, Max Delbrück Center for Molecular Medicine, Berlin
1991-1994	Postdoctoral fellow, Institute of Neurobiology, University of Heidelberg
1986-1990	PhD (Dr. rer. nat.), Institute of Neurobiology, University of Heidelberg
1985	Diploma in Biochemistry, Institute of Neurobiology, University of Heidelberg
1981-1985	Study of Biochemistry, University of Hannover

Honours, Distinctions and Community Services

Since 2014	„Visiting Professor“ at the University of Medicine and Pharmacy of Craiova, Craiova, Romania
Since 2013	Coordinator of the DFG Priority Programme SPP 1757 “Glial Heterogeneity”
Since 2010	Editorial board member of Journal of Chemical Neuroanatomy
Since 2009	Editorial board member of GLIA
1981-1986	Fellowship of the Studienstiftung des deutschen Volkes
1987-1989	PhD Fellowship of the Boehringer Ingelheim Fonds

Ad hoc reviewer for scientific journals: Cell Calcium, European Journal of Neuroscience, Glia, Journal of Chemical Neuroanatomy, Journal of Neuroscience Methods, Journal of Neuroscience Research, Journal for Neuroscience, Journal of Physiology, Molecular and Cellular Neuroscience, Nature, Neuron Glia Biology, PLoS One, PLoS Biology, Science, Science Signaling
Ad hoc reviewer for scientific grant agencies: European Research Council (ERC, EU), Deutsche Forschungsgemeinschaft (DFG, D), Agence National de la Recherche (ANR, F), Fondation Recherche Medical (FRM, F), ARSEP (F), Wellcome Trust (UK), Medical Research Council (MRC, UK), Grant Agency of the Czech Republic (GACR, CZ), International Spinal Research Trust (ISRT, UK), Wings of Life (AU)

Research Interests

Our research focuses on the molecular and cellular mechanisms of neuron-glia interaction in the central nervous system. We are pursuing the following research questions: How do glial transmitter receptors sense and modulate synaptic transmission? What is the impact for living organisms? How do glial cells respond to acute injuries within the central nervous system?
For functional analysis we develop transgenic mouse models with cell-type specific expression of various fluorescent proteins (FPs) and inducible gene deletion. We are applying a combination of biochemical and molecular biological methods together with imaging techniques such as two-photon laser-scanning microscopy (2P-LSM) or CCD imaging.

List of selected publications (complete list at http://www.kirchhoff-lab.de/index.php/publications; H-Factor: 41)

1. Huang W, Zhao N, Bai X, Karram K, Trotter J, Goebbels S, Scheller A, Kirchhoff F (2014) Novel NG2-CreERT2 knock-in mice demonstrate heterogeneous differentiation potential of NG2 glia during development. **Glia** 62: 896-913.
2. Kettenmann H, Kirchhoff F, Verkhratsky A (2013) Microglia: new roles for the synaptic stripper. **Neuron** 9:10-8.
3. Bai X, Saab AS, Huang W, Hoberg IK, Kirchhoff F, Scheller A (2013) Genetic Background Affects Human Glial Fibrillary Acidic Protein Promoter Activity. **PLoS ONE**. 10.1371/journal.pone.0066873.
4. Kirchhoff F (2012) Role of Microglia in the normal brain. In: **Neuroglia**. 3rd ed. Oxford University Press, New York. Eds. Kettenmann H and Ransom BR, pp 605-613
5. Saab AS, Neumeyer A, Jahn HM, Cupido A, Šimek AAM, Boele HJ, Scheller A, Le Meur K, Götz M, Monyer H, Sprengel R, Rubio ME, Deitmer JW, De Zeeuw CI and Kirchhoff F (2012) Bergmann Glial AMPA Receptors are Required for Fine Motor Coordination. **Science** 337:749-53
6. Ertürk A, Mauch CP, Hellal F, Förstner F, Keck T, Becker K, Jährling N, Steffens H, Richter M, Hübener M, Kramer E, Kirchhoff F, Dodt HU, Bradke F. (2012) Three-dimensional imaging of the unsectioned adult spinal cord to assess axon regeneration and glial responses after injury. **Nat Medicine**. 18:166-71.
7. Lioy DT, Garg SK, Monaghan CE, Raber J, Foust KD, Kaspar BK, Hirrlinger PG, Kirchhoff F, Bissonnette JM, Ballas N, Mandel G. (2011) A role for glia in the progression of Rett's syndrome. **Nature** 475: 497-500.
8. Steffens H, Nadrigny F and Kirchhoff F (2011) Two-Photon Imaging of Neurons and Glia in the Spinal Cord In Vivo. **Imaging in Neuroscience: A Laboratory Manual.** pp. 715-727. Cold Spring Harbor Laboratory.
9. Dibaj P, Nadrigny F, Steffens H, Scheller A, Hirrlinger J, Schomburg ED, Neusch C, Kirchhoff F (2010) NO mediates microglial response to acute spinal cord injury under ATP control in vivo. **Glia** 58:1133-1144.
10. Beckervordersandforth R, Tripathi P, Ninkovic J, Bayam E, Lepier A, Stempfhuber B, Kirchhoff F, Hirrlinger J, Haslinger A, Lie DC, Beckers J, Yoder B, Irmler M, Gotz M (2010) In vivo fate mapping and expression analysis reveals molecular hallmarks of prospectively isolated adult neural stem cells. **Cell Stem Cell** 7:744-758.
11. Reichenbach A, Derouiche A, Kirchhoff F (2010) Morphology and dynamics of perisynaptic glia. **Brain Res Rev** 63:11-25.
12. Hirrlinger J, Scheller A, Hirrlinger PG, Kellert B, Tang W, Wehr MC, Goebbels S, Reichenbach A, Sprengel R, Rossner MJ, Kirchhoff F (2009) Split-cre complementation indicates coincident activity of different genes in vivo. **Plos One** 4:e4286.
13. Ylera B, Erturk A, Hellal F, Nadrigny F, Hurtado A, Tahirovic S, Oudega M, Kirchhoff F, Bradke F (2009) Chronically CNS-injured adult sensory neurons gain regenerative competence upon a lesion of their peripheral axon. **Curr Biol** 19:930-936.
14. Verkhratsky A, Kirchhoff F (2007) NMDA Receptors in glia. **Neuroscientist** 13:28-37.
15. Hirrlinger PG, Scheller A, Braun C, Hirrlinger J, Kirchhoff F (2006) Temporal control of gene recombination in astrocytes by transgenic expression of the tamoxifen-inducible DNA recombinase variant CreERT2. **Glia** 54:11-20.
16. Lalo U, Pankratov Y, Kirchhoff F, North RA, Verkhratsky A (2006) NMDA receptors mediate neuron-to-glia signaling in mouse cortical astrocytes. **J Neurosci** 26:2673-2683.
17. Hirrlinger PG, Scheller A, Braun C, Quintela-Schneider M, Fuss B, Hirrlinger J, Kirchhoff F (2005) Expression of reef coral fluorescent proteins in the central nervous system of transgenic mice. **Mol Cell Neurosci** 30:291-303.
18. Nimmerjahn A, Kirchhoff F, Helmchen F (2005) Resting microglial cells are highly dynamic surveillants of brain parenchyma in vivo. **Science** 308:1314-1318.
19. Hirrlinger J, Hulsmann S, Kirchhoff F (2004) Astroglial processes show spontaneous motility at active synaptic terminals in situ. **Eur J Neurosci** 20:2235-2239.
20. Nimmerjahn A, Kirchhoff F, Kerr JN, Helmchen F (2004) Sulforhodamine 101 as a specific marker of astroglia in the neocortex in vivo. **Nat Methods** 1:31-37.
21. Malatesta P, Hack MA, Hartfuss E, Kettenmann H, Klinkert W, Kirchhoff F, Gotz M (2003) Neuronal or glial progeny: regional differences in radial glia fate. **Neuron** 37:751-764.