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Curriculum vitae

Since 2012	Spokesperson, Collaborative Research Center (SFB) 958 'Scaffolding of membranes – molecular mechanisms and cellular functions', German Research Foundation (DFG)
Since 2009	Member, board of directors, NeuroCure – Cluster of Excellence, Berlin
Since 2008	Full professor (W3), Genetics, Institute of Biology, Freie Universität Berlin and NeuroCure – Cluster of Excellence, Berlin
2006 – 2008	Professor (W2) for Experimental Biomedicine and Bio-Imaging, Rudolf Virchow Center of Excellence, Universität Würzburg
2005	Venia legendi (Habilitation), University Medical Center Göttingen
2002 – 2005	Spokesperson of junior research groups, Max-Planck Society (MPG)
2001 – 2006	Junior research group leader, Neuroplasticity, European Neuroscience Institute (ENI), Göttingen
1997 – 2000	Postdoctoral fellow, Max Planck Institute for Developmental Biology, Tübingen
1997	PhD in Molecular Genetics and Biochemistry, Max Planck Institute for Developmental Biology, Tübingen
1993	Biochemistry, Universitätsklinikum Tübingen, Universität Tübingen

Research fields

Our group is active in the field of cellular and molecular neurobiology with the following major areas:

- Cellular and molecular mechanisms of synapse formation and plasticity
- Molecular mechanisms of synaptic transmission
- Molecular organization of synapses in physiological and pathophysiological states
- 'Synaptopathy' in neurological-psychiatric and neurodevelopmental diseases, particularly autism

Activities in the scientific community, honors, awards

Since 2016	Head of Scientific Advisory Board, Leibniz Institute for Neurobiology, Magdeburg
Since 2014	Einstein Professor, Einstein Foundation Berlin
Since 2014	Principal investigator, German Center for Neurodegenerative Diseases (DZNE), Berlin
Since 2012	Member, Neurobiology review board, German Research Foundation (DFG), re-elected 2016
Since 2012	Member, Emmy Noether Programm review board, German Research Foundation (DFG), re-elected in 2016
2005	Best Habilitation award, University Medical Center Göttingen
2000	Long-Term Research Fellowship, European Molecular Biology Organization (EMBO) and Long-Term Fellowship, Human Frontier Science Program (HFSP)
1997 – 2000	Habilitation scholarship, Claussen-Simon Foundation

Selected publications

- Bohme MA, Beis C, Reddy-Alla S, Reynolds E, Mampell MM, Grasskamp AT, Lutzkendorf J, Bergeron DD, Driller JH, Babikir H, Gottfert F, Robinson IM, O’Kane CJ, Hell SW, Wahl MC, Stelzl U, Loll B, Walter AM, Sigrist SJ. Active zone scaffolds differentially accumulate Unc13 isoforms to tune Ca²⁺ channel-vesicle coupling. *Nat Neurosci* 2016; 10:1311-1320
- Muhammad K, Reddy-Alla S, Driller JH, Schreiner D, Rey U, Bohme MA, Hollmann C, Ramesh N, Depner H, Lutzkendorf J, Matkovic T, Gotz T, Bergeron DD, Schmoranzer J, Goettfert F, Holt M, Wahl MC, Hell SW, Scheiffele P, Walter AM, Loll B, Sigrist SJ. Presynaptic spinophilin tunes neurexin signalling to control active zone architecture and function. *Nat Commun* 2015; 6:8362
- Gupta VK, Scheunemann L, Eisenberg T, Mertel S, Bhukel A, Koemans TS, Kramer JM, Liu KS, Schroeder S, Stunnenberg HG, Sinner F, Magnes C, Pieber TR, Dipt S, Fiala A, Schenck A, Schwaerzel M, Madeo F*, Sigrist SJ*. Restoring polyamines protects from age-induced memory impairment in an autophagy-dependent manner. *Nat Neurosci* 2013; 16:1453-1460 | *corresponding authors
- Owald D, Khorramshahi O, Gupta VK, Banovic D, Depner H, Fouquet W, Wichmann C, Mertel S, Eimer S, Reynolds E, Holt M, Aberle H, Sigrist SJ. Cooperation of Syd-1 with Neurexin synchronizes pre- with postsynaptic assembly. *Nat Neurosci* 2012; 15:1219-1226
- Liu KS, Siebert M, Mertel S, Knoche E, Wegener S, Wichmann C, Matkovic T, Muhammad K, Depner H, Mettke C, Buckers J, Hell SW, Muller M, Davis GW, Schmitz D*, Sigrist SJ*. RIM-binding protein, a central part of the active zone, is essential for neurotransmitter release. *Science* 2011; 334:1565-1569 | *corresponding authors
- Schmid A, Hallermann S, Kittel RJ, Khorramshahi O, Frolich AM, Quentin C, Rasse TM, Mertel S, Heckmann M, Sigrist SJ. Activity-dependent site-specific changes of glutamate receptor composition in vivo. *Nat Neurosci* 2008; 11:659-666
- Kittel RJ, Wichmann C, Rasse TM, Fouquet W, Schmidt M, Schmid A, Wagh DA, Pawlu C, Kellner RR, Willig KI, Hell SW, Buchner E, Heckmann M*, Sigrist SJ*. Bruchpilot promotes active zone assembly, Ca²⁺ channel clustering, and vesicle release. *Science* 2006; 312:1051-1054 | *corresponding authors
- Rasse TM, Fouquet W, Schmid A, Kittel RJ, Mertel S, Sigrist CB, Schmidt M, Guzman A, Merino C, Qin G, Quentin C, Madeo FF, Heckmann M*, Sigrist SJ*. Glutamate receptor dynamics organizing synapse formation in vivo. *Nat Neurosci* 2005; 8:898-905 | *corresponding authors
- Sigrist SJ, Thiel PR, Reiff DF, Lachance PE, Lasko P, Schuster CM. Postsynaptic translation affects the efficacy and morphology of neuromuscular junctions. *Nature* 2000; 405:1062-1065
- Sigrist SJ, Lehner CF. *Drosophila* fizzy-related down-regulates mitotic cyclins and is required for cell proliferation arrest and entry into endocycles. *Cell* 1997; 90:671-681