

RESEARCH PROFILE

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Univ.-Prof. Dr. med.
Date of birth: 03.10.1967, male
Institute for Molecular and Behavioral Neuroscience
DZNE Research Group Experimental Neurophysiology
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Position: W3 professor (University of Cologne), Head of Institute

EDUCATION

1989 – 1996 Medical School, Georg-August University Göttingen

ACADEMIC DEGREES

2013 W3-Professor for Experimental Neurophysiology, Univ Cologne
2009 DFG-Heisenberg Professor (W3) for Experimental Neuropediatrics at the Center for Obstetrics and Pediatrics and the Center for Molecular Neurobiology, University Medical Center Hamburg-Eppendorf
1997 Doctor in Medicine, Georg-August University of Göttingen (supervisor: Prof. Dr. K. von Figura)

PROFESSIONAL CAREER AND ACADEMIC ACHIEVEMENTS

Since 2015 Director of the Institute for Molecular and Behavioral Neuroscience, University of Cologne
Since 2013 W3-Professor for Experimental Neurophysiology, DZNE-Bonn/University of Cologne, Germany
2009 – 2013 Head of the DFG-Heisenberg Team Experimental Neuropediatrics at the Center for Obstetrics and Pediatrics and the Center for Molecular Neurobiology, University Medical Center Hamburg-Eppendorf
2005 – 2006 Visiting scientist in the laboratory of Prof. G. Buzsáki, Center for Molecular and Behavioral Neuroscience, Rutgers University Newark, NJ, USA
1998 – 2008 Research group leader at the Institute for Neural Signal Transduction of the Center for Molecular Neurobiology Hamburg, University Medical Center Hamburg-Eppendorf, Germany
1996 – 1997 Research group leader at the Children's Hospital of the University Hospital Hamburg-Eppendorf
1996 – 1997 Children's Hospital of the University Medical Center Hamburg-Eppendorf, Germany, Arzt im Praktikum
1990 – 1996 Experimental work for doctoral thesis and follow-up studies in the group of Prof. K. von Figura, University of Göttingen

OTHERS (EDITORSHIPS, ADVISORY BOARDS, AWARDS)

2008 Award of a DFG-Heisenberg Professorship, positive evaluation by the DFG in 2011 for the second funding period
2007 Award of a 'Directeur de Recherche' (DR2, equivalent to associate professor) position by INSERM (Paris, France)
2007 Award of a grant within the internat. 'AVENIR' program by INSERM (Paris/France)
2006 Dr. Martini Research Prize of the Dr. Martini Foundation Hamburg
2005 Human Frontier Science Project (HFSP); Short-Term Fellowship
2001 Bruno-Kisch Research Prize 2001 of the German Cardiological Society

PUBLICATIONS

Meier K, Merseburg A, [Isbrandt D](#), Marguet SL, Morellini F. Dentate gyrus sharp waves, a local field potential correlate of learning in the dentate gyrus of mice. **J. Neurosci** 2020, in press

Gao X, Castro-Gomez S, Grendel J, Graf S, Süssens U, Binkle L, Mensching D, [Isbrandt D](#), Kuhl D, Ohana O. Arc/Arg3.1 mediates a critical period for spatial learning and hippocampal networks. **Proc Natl Acad Sci** 2018, 115(49): 12531–12536.

Bocker H T, Heinrich T, Liebmann L, Hennings J C, Seemann E, Gerth M, Jakovčevski I, Preobraschenski J, Kessels M M, Westermann M, [Isbrandt D](#), Jahn R, Qualmann B, Hübner C A. The Na⁺/H⁺ Exchanger Nhe1 Modulates Network Excitability via GABA Release. **Cereb Cortex** 2018, 29(3): 225–229

Marguet SL, Le-Schulte VTQ, Merseburg A, Neu A, Eichler R, Jakovcevski I, Ivanov A, Hanganu-Opatz IL, Bernard C, Morellini F, [Isbrandt D](#). Treatment during a vulnerable developmental period rescues a genetic epilepsy. **Nat Med** 2015, 21:1436–1444.

Mesirca P, Alig J, Torrente AG, Müller JC, Marger L, Rollin A, Marquilly C, Vincent A, Dubel S, Bidaud I, Fernandez A, Seniuk A, Engeland B, Singh J, Miquerol L, Ehmke H, Eschenhagen T, Nargeot J, Wickman K, [Isbrandt D](#), Mangoni ME. Cardiac arrhythmia induced by genetic silencing of 'funny' (f) channels is rescued by GIRK4 inactivation. **Nat Commun**, 2014, 5:4664.

Choe CU, Atzler D, Wild PS, Carter AM, Böger RH, Ojeda F, Simova O, Stockebrand M, Lackner K, Nabuurs C, Marescau B, Streichert T, Müller C, Lüneburg N, De Deyn PP, Benndorf RA, Baldus S, Gerloff C, Blankenberg S, Heerschap A, Grant PJ, Magnus T, Zeller T, [Isbrandt D](#), Schwedhelm E. Homoarginine levels are regulated by L-arginine:glycine amidinotransferase and affect stroke outcome: results from human and murine studies. **Circulation** 2013, 128(13):1451-61.

Alig J, Marger L, Mesirca P, Ehmke H, Mangoni ME, [Isbrandt D](#). Control of heart rate by cAMP sensitivity of HCN channels. **Proc Natl Acad Sci** 2009, 106:12189–12194.

Choe CU, Schulze-Bahr E, Neu A, Xu J, Zhu ZI, Sauter K, Bähring R, Priori S, Guicheney P, Monnig G, Neapolitano C, Heidemann J, Clancy CE, Pongs O, [Isbrandt D](#). C-terminal HERG (LQT2) mutations disrupt IKr channel regulation through 14-3-3epsilon. **Human Mol Genet** 2006, 15: 2888-2902.

Peters HC, Hu H, Pongs O, Storm JF, [Isbrandt D](#). Conditional transgenic suppression of M channels in mouse brain reveals functions in neuronal excitability, resonance and behavior. **Nat Neurosci** 2005, 8: 51-60.

Schulze-Bahr E, Neu A, Friederich P, Kaupp UB, Breithardt G, Pongs O, [Isbrandt D](#). Pacemaker channel dysfunction in a patient with sinus node disease. **J Clin Invest** 2003, 111:1537-1545.