

## Thomas Jentsch

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### Curriculum vitae

|             |                                                                                  |
|-------------|----------------------------------------------------------------------------------|
| Since 2009  | Deputy director, FMP, Berlin                                                     |
| Since 2006  | Head, Department of Physiology and Pathology of Ion Transport, FMP/MDC, Berlin   |
| Since 2006  | Full professor (W3), Charité, Berlin                                             |
| 2001 – 2003 | Director, Center for Molecular Neurobiology Hamburg (ZMNH), Hamburg              |
| 1995 – 1998 | Director, Center for Molecular Neurobiology Hamburg (ZMNH), Hamburg              |
| 1993 – 2006 | Full professor (C4), Center for Molecular Neurobiology Hamburg (ZMNH), Hamburg   |
| 1991        | Venia legendi (Habilitation) in Cell Biochemistry, Universität Hamburg           |
| 1988 – 1993 | Research group leader, Center for Molecular Neurobiology Hamburg (ZMNH), Hamburg |
| 1986 – 1988 | Postdoctoral fellow, Whitehead Institute for Biomedical Research, Cambridge, US  |
| 1984        | MD (Dr. med.), Freie Universität Berlin                                          |
| 1982        | PhD in Physics, Fritz-Haber-Institute, Max Planck Society (MPG), Berlin          |
| 1981 – 1985 | Staff scientist, Department for Clinical Physiology, Freie Universität Berlin    |
| 1972 – 1980 | Studies in Medicine and studies in Physics, Freie Universität Berlin             |

### Research fields

Our group is active in the field of physiology and pathology of ion transport with the major areas:

- Cellular and molecular mechanisms of neurodegeneration, epilepsy, sensory biology
- Cell biology and (patho) physiology of cell volume regulation and related signaling in the CNS
- Mouse models
- Intracellular trafficking, endosomal/lysosomal traffic, and function
- Kidney physiology, transepithelial transport

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

|            |                                                                                                                                                |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| present    | Member, advisory boards/committees: Université Côte d'Azur; Institut de l'Audition, F; CECS, CL; MPIEM, Göttingen; Fondation Louis-Jeantet, CH |
| 2017, 2012 | European Research Council (ERC), Advanced Grants                                                                                               |
| 2013       | Cátedra de Investigación Dr. García-Sainz, University Autón. San Luís Potosí, MX                                                               |
| 2012       | Hans Ussing Award Lecture, American Physiological Society, US                                                                                  |
| 2006       | Hodgkin-Huxley-Katz Prize Lecture, Physiological Society, UK                                                                                   |
| Since 2005 | Member, Hamburg Academy of Sciences                                                                                                            |
| Since 2004 | Member, Leopoldina – German National Academy of Sciences                                                                                       |
| 2004       | Homer W. Smith Award, American Society of Nephrology, US                                                                                       |
| 2004       | Adolf Fick Prize for Physiology/Biophysics                                                                                                     |
| Since 2001 | Member, Berlin-Brandenburg Academy of Sciences and Humanities (BBAW), European Molecular Biology Organization (EMBO), and Academia Europaea    |
| 2001       | Prix Louis-Jeantet de médecine, Fondation Louis-Jeantet, CH                                                                                    |
| 2000       | Ernst Jung Prize for Medicine, Familie Hansen Prize, and Feldberg Prize                                                                        |
| 1999       | Zülch Prize for research in neurology, Max Planck Society (MPG)                                                                                |
| 1998       | Franz Volhard Prize for research in nephrology                                                                                                 |
| 1998       | Alfred Hauptmann Award, Swiss Federation of Clinical Neuro-Societies, CH                                                                       |
| 1995       | Gottfried Wilhelm Leibniz Prize, German Research Foundation (DFG)                                                                              |
| 1992       | Wilhelm Vaillant Prize for medical research                                                                                                    |

## Selected publications

- Godde K, Gschwend O, Puchkov D, Pfeffer CK, Carleton A, Jentsch TJ. Disruption of Kcc2-dependent inhibition of olfactory bulb output neurons suggests its importance in odour discrimination. *Nat Commun* 2016; 7:12043
- Planells-Cases R, Lutter D, Guyader C, Gerhards NM, Ullrich F, Elger DA, Kucukosmanoglu A, Xu G, Voss FK, Reincke SM, Stauber T, Blomen VA, Vis DJ, Wessels LF, Brummelkamp TR, Borst P, Rottenberg S, Jentsch TJ. Subunit composition of VRAC channels determines substrate specificity and cellular resistance to Pt-based anti-cancer drugs. *Embo J* 2015; 34:2993-3008
- Voss FK, Ullrich F, Munch J, Lazarow K, Lutter D, Mah N, Andrade-Navarro MA, von Kries JP, Stauber T, Jentsch TJ. Identification of LRRC8 heteromers as an essential component of the volume-regulated anion channel VRAC. *Science* 2014; 344:634-638
- Billig GM, Pal B, Fidzinski P, Jentsch TJ. Ca<sup>2+</sup>-activated Cl<sup>-</sup> currents are dispensable for olfaction. *Nat Neurosci* 2011; 14:763-769
- Weinert S, Jabs S, Supanchart C, Schweizer M, Gimber N, Richter M, Rademann J, Stauber T, Kornak U, Jentsch TJ. Lysosomal pathology and osteopetrosis upon loss of H<sup>+</sup>-driven lysosomal Cl<sup>-</sup> accumulation. *Science* 2010; 328:1401-1403
- Novarino G, Weinert S, Rickheit G, Jentsch TJ. Endosomal chloride-proton exchange rather than chloride conductance is crucial for renal endocytosis. *Science* 2010; 328:1398-1401
- Rickheit G, Maier H, Strenzke N, Andreescu CE, De Zeeuw CI, Muenscher A, Zdebik AA, Jentsch TJ. Endocochlear potential depends on Cl<sup>-</sup> channels: mechanism underlying deafness in Bartter syndrome IV. *Embo J* 2008; 27:2907-2917
- Poet M, Kornak U, Schweizer M, Zdebik AA, Scheel O, Hoelter S, Wurst W, Schmitt A, Fuhrmann JC, Planells-Cases R, Mole SE, Hubner CA, Jentsch TJ. Lysosomal storage disease upon disruption of the neuronal chloride transport protein CLC-6. *Proc Natl Acad Sci USA* 2006; 103:13854-13859
- Lange PF, Wartosch L, Jentsch TJ, Fuhrmann JC. CLC-7 requires Ostm1 as a beta-subunit to support bone resorption and lysosomal function. *Nature* 2006; 440:220-223
- Scheel O, Zdebik AA, Lourdel S, Jentsch TJ. Voltage-dependent electrogenic chloride/proton exchange by endosomal CLC proteins. *Nature* 2005; 436:424-427