

Prof. Dr. Manfred Heckmann



General information

Heckmann, Manfred, Prof. Dr., *08.02.1965, male
Julius-Maximilians-Universität Würzburg
Lehrstuhl für Physiologie, Schwerpunkt Neurophysiologie
Röntgenring 9, 97070 Würzburg
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Current position: Full Professor and Chair of Physiology

Research Fields

Neurophysiology, in particular physiology and pathophysiology of synapses with focus on structure and function of presynaptic active zones

University training and degree

Medical studies (1985–1993), Munich, Lübeck, Grenoble (Frankreich), Greenville (N. Carolina, USA); state examination 1993

Advanced academic qualifications

1998 Habilitation: Physiology, Technical University Munich, Mentor: Prof. J. Dudel
1994 Doctorate (Dr. med.): Physiology, Ludwig Maximilians University, Munich, Supervisor: Prof. H.-G. Zimmer

Postgraduate professional career

since 2008 Full Professor and Chair for Physiology at the University of Würzburg
2008–2011 Group Leader: Bioluminescence, Rudolf Virchow Center
2007–2008 Professor for Physiology at the Carl-Ludwig Institute, (Chair: Prof. J. Eilers), University of Leipzig
2005–2007 Professor for Molecular Neurobiology, Department for Clinical Neurobiology (Chair: Prof. M. Sendtner) at the University of Würzburg
2000–2005 Group Leader at the Department of Physiology (Chair: Prof. P. Jonas), University of Freiburg
1998–2000 Group Leader at the Department of Physiology (Chair: Prof. A. Konnerth), Technical University Munich
1994–1998 Postdoctoral fellow at the Department of Physiology (Chair: Prof. J. Dudel), Technical University Munich

Other

since 2017 Section Editor for Neuroscience
since 2015 Board of the CRC/TRR 166
since 2011 Examiner & Board in Physiology of the Bavarian Medical Association
2008–2010 President of the Physical Medical Society, University of Würzburg
since 2009 Board of the Interdisciplinary Center for Clinical Research Würzburg (IZKF)

2008–2012	Board of the SFB 581
1997–2007	Editorial board member of Invertebrate Neurobiology
1994	Scholarship of the DFG for the International School of Biophysics; “A. Borsellino” 23 Course: Neurobiology, a NATO advanced study institute; Erice, Italy
1989	Scholarship of the DAAD (German academic exchange service) for research at the Université Joseph Fourier, Grenoble, France

Publications

a) Articles

1. Paul MM, Pauli M, Ehmann N, Hallermann S, Sauer M, Kittel RJ*, **Heckmann M***. 2015 Bruchpilot and Synaptotagmin collaborate to drive rapid glutamate release and active zone differentiation. *Front Cell Neurosci* 9:29
2. Ehmann N, van de Linde S, Alon A, Ljaschenko D, Keung XZ, Holm T, Rings A, DiAntonio A, Hallermann S, Ashery U, **Heckmann M**, Sauer M, Kittel RJ. 2014 Quantitative super-resolution imaging of Bruchpilot distinguishes active zone states. *Nat Commun* 5:4650
3. Stock P, Ljaschenko D, **Heckmann M***, Dudel J*. 2014 Agonists binding nicotinic receptors elicit specific channel-opening patterns at $\alpha\gamma$ and $\alpha\delta$ sites. *J Physiol* 592:2501-17
4. Schmidt H, Brachtendorf S, Arendt O, Hallermann S, Ishiyama S, Bornschein G, Gall D, Schiffmann SN, **Heckmann M**, Eilers J. 2013 Nanodomain coupling at an excitatory cortical synapse. *Curr Biol* 23:244-9
5. Geis C, Weishaupt A, Hallermann S, Grünewald B, Wessig C, Wultsch T, Reif A, Byts N, Beck M, Jablonka S, Boettgera MK, Üçeyler N, Fouquet W, Gerlach M, Meinck FM, Sirén A-L, Sigrist SJ, Toyka KV, **Heckmann M***, Sommer C*. 2010 Stiff person syndrome associated autoantibodies to amphiphysin mediate reduced GABAergic inhibition. *Brain* 133:3166-80
6. Hallermann S, Kittel RJ, Wichmann C, Weyhersmüller A, Fouquet W, Mertel S, Oswald D, Eimer S, Depner H, Schwärzel M, Sigrist SJ*, **Heckmann M.*** 2010 Naked dense bodies provoke depression. *J Neurosci* 30:14340-5
7. 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*. 2006 Bruchpilot promotes active zone assembly, Ca^{2+} channel clustering, and vesicle release. *Science* 312:1051-4
8. 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 S*. 2005 Glutamate receptor dynamics organizing synapse formation *in vivo*. *Nat Neurosci* 8:889-905
9. Pawlu C, DiAntonio A, **Heckmann M**. 2004 Postfusional control of quantal current shape. *Neuron* 42:607-18
10. Hallermann S, Pawlu C, Jonas P, **Heckmann M**. 2003 A large pool of releasable vesicles in a cortical glutamatergic synapse. *Proc Natl Acad Sci U S A* 100:8975-80

* indicates shared correspondence

b) Other publications

n.a.

c) Patents

n.a.