

PD Dr. RICHARD CARR

Date of birth: 15 January, 1970
Gender: Male
Address: Heidelberg University
Medical Faculty Mannheim
Department of Experimental Pain Research
Ludolf-Krehl-Str 13-17
68167 Mannheim
Phone: +49 (0) 621 383 71652s
Email: richard.carr@medma.uni-heidelberg.de
Position: Group leader – Sensory biophysics
Children: Two (* 2010; * 2015)



CURRICULUM VITAE

University education

1992 - 1994 Bachelor of Science, Honours I, Physiology, Monash University, Melbourne, Australia
1988 - 1991 Bachelor of Applied Science, Biophysics, Swinburne University, Melbourne, Australia

Scientific degrees

2010 Habilitation and Venia legendi in Physiology, Ludwig-Maximilian University, Munich, Germany
1999 Doctoral dissertation, PhD title: 'Action potential encoding in sensory receptors of skin and muscle'. Supervisor: Prof. Dr. Uwe Proske, Department of Physiology, Monash University, Melbourne, Australia.

Professional experience

Since 2011 Group leader, Experimental Pain Research, Medical Faculty Mannheim, Heidelberg University, Mannheim, Germany
2007 - 2010 Lecturer, Institute for Physiology, Department of Physiological Genomics, Ludwig-Maximilian University, Munich, Germany
2004 - 2007 Postdoctoral fellow with Prof. Dr. Karl Meßlinger, Institute for Physiology, University Erlangen-Nuremberg, Erlangen, Germany
2002 - 2004 Alexander von Humboldt Fellow, Institute for Physiology, University Erlangen-Nuremberg, Erlangen, Germany
2000 - 2002 Postdoctoral fellow with Prof. Dr. James Brock, Prince of Wales Medical Research Institute, Sydney, Australia

Academic functions and awards:

Awards and honours:

2008 Prize for Basic Research, German Pain Society
2002 Alexander von Humboldt Fellowship

1994 Graduate scholarship (with Priority) from the Australian Postgraduate Research Council

Editorial Boards:

Since 2018 F1000 prime invited Faculty

A) Publications:

Jonas R, Namer B, Stockinger L, Chisholm K, Schnakenberg M, Landmann G, Kucharczyk M, Konrad C, Schmidt R, Carr R, McMahon S, Schmelz M, Rukwied R. Tuning in C-nociceptors to reveal mechanisms in chronic neuropathic pain. **Annals of Neurology** 2018;83:945-957.

Hoffmann T, Sharon O, Wittmann J, Carr RW, Vyshnevskaya A, Col R, Nassar MA, Reeh PW, Weidner C. Nav1.7 and pain: contribution of peripheral nerves. **Pain** 2018;159:496-506.

Klein AH, Vyshnevskaya A, Hartke TV, De Col R, Mankowski JL, Turnquist B, Bosmans F, Reeh PW, Schmelz M, Carr RW, Ringkamp M. Sodium channel Nav1.8 underlies TTX-resistant axonal action potential conduction in somatosensory C-fibers of distal cutaneous nerves. **The Journal of Neuroscience** 2017;37:5204-5214.

Tigerholm J, Petersson ME, Obreja O, Eberhardt E, Namer B, Weidner C, Lampert A, Carr RW, Schmelz M, Fransen E. C-fiber recovery cycle supernormality depends on ion concentration and ion channel permeability. **Biophysical Journal** 2015;108:1057-1071.

Sittl R, Lampert A, Huth T, Schuy ET, Link AS, Fleckenstein J, Alzheimer C, Grafe P, Carr RW. Anticancer drug oxaliplatin induces acute cooling-aggravated neuropathy via sodium channel subtype Na(V)1.6-resurgent and persistent current. **Proc Natl Acad Sci U S A** 2012;109:6704-6709.

Klinger AB, Eberhardt M, Link AS, Namer B, Kutsche LK, Schuy ET, Sittl R, Hoffmann T, Alzheimer C, Huth T, Carr RW, Lampert A. Sea-anemone toxin ATX-II elicits A-fiber-dependent pain and enhances resurgent and persistent sodium currents in large sensory neurons. **Molecular Pain** 2012;8:69.

De Col R, Messlinger K, Carr RW. Repetitive activity slows axonal conduction velocity and concomitantly increases mechanical activation threshold in single axons of the rat cranial dura. **The Journal of Physiology** 2012;590:725-736.

Carr RW, Pianova S, McKemy DD, Brock JA. Action potential initiation in the peripheral terminals of cold-sensitive neurones innervating the guinea-pig cornea. **The Journal of Physiology** 2009;587:1249-1264.

Zimmermann K, Leffler A, Babes A, Cendan CM, Carr RW, Kobayashi J, Nau C, Wood JN, Reeh PW. Sensory neuron sodium channel Nav1.8 is essential for pain at low temperatures. **Nature** 2007;447:855-858.

B) Patents: -

Scientific collaborations beyond the planned Collaborative Research Centre

Nicolas Petersen, University of Copenhagen, Denmark

Benedikt Berninger, University of Mainz, Germany

Karl Meßlinger, University of Erlangen-Nuremberg, Germany

Matthis Ringkamp, Johns Hopkins University, USA

Valerio Magnaghi, University of Milan, Italy