

Rolf Sprengel

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GENERAL INFORMATION

Name: **Dr. Rolf Sprengel**
Date of birth: October 1st, 1955
Gender: male
Address: Max Planck Research Group
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Current Position: Research Group Leader of the Max Planck Society (C3)
Children: 1 child (* 1984)



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EDUCATION AND RESEARCH EXPERIENCE

1975-1983 University of Heidelberg, Faculty of Biology; student
1980-1985 University of Heidelberg, Department of Microbiology
1985-1986 University of California San Francisco (UCSF), Department of Microbiology and Immunology;
postdoctoral fellow
1986-1988 Max Planck Institute for Biochemistry, Martinsried; hepatitis virus junior group; postdoctoral
fellow
1988-1996 University of Heidelberg, Center for Molecular Biology (ZMBH), Molecular Neurobiology;
postdoctoral fellow
1996-2001 Max Planck Institute for Medical Research, Heidelberg; Department of Molecular Neurobiology;
research associate
2000 Call to C3 professorship from the president of the Max Planck Society
2001- Max Planck Institute for Medical Research, Heidelberg; Department of Molecular Neurobiology;
research group leader
2015- Max Planck research group leader at the Inst. for Anatomy and Cell Biology, Heidelberg
University

AVARDS AND HONOURS

2014 Invited visiting scientist at the Korean Institute of Science and Technology in Seoul/South
Korea (7/14 -11/14)
2011- Visiting professor at the University of Oslo/Norway
1985 Fellowship by German Academic Exchange Service (DAAD)
1983 – 1984 Fellowship by Fritz Thyssen Foundation

MEMEBERSHIPS

American Society for Neuroscience (since 2002)
American Association for the Advancement of Science (since 1996)

CURRENT SCIENTIFIC COLLABORATIONS

SFB1134/B0, SFB1156/A05; Prof. Erlend Nagelhus and Dr. Vidar Jensen, University of Oslo, Norway. Prof. David Bannerman, University of Oxford, United Kingdom. Prof. F. Kirchhof, University Saarland, Homburg, Germany, Prof. H. Monyer, DKFZ Heidelberg, Germany. Prof. G. A. Rappold, University Heidelberg, Germany. Prof. R. Kuner, Universität Heidelberg. Prof. A. Holmes, NIH-Washington, USA. Prof. A. Lüthi, FMI-Basel, Switzerland. Prof. E. Korpi, University of Helsinki, Finland. Dr. A. Rozow, University Dundee, United Kingdom.

RESEARCH GRANTS

German research council (DFG); SFB1158/A05 Subcellular Ca²⁺ signalling in neurons and glia in neuropathic brain.(2016-2019)
German research council (DFG); SFB1134/B01 Local and global glia activity pattern (2015-2018)
The research council of Norway: The still neglected brain cells - glia alive (2015-2018)
German academic exchange service (DAAD): Norway research exchange program (6/2014)

BMFT: Bilaterale Kooperation in Bildung und Forschung: AMPA receptor modifying Conotoxins (travel grant, 1/2011, 12/2012)
 German research council (DFG); SFB636/A04 The role of AMPA and NMDA receptors in hippocampal based memory (2003-2007)
 Bundesministerium für Bildung und Forschung (NMFT): NGFN_SP10: Genetics of Alcohol Addiction: Transkriptionale und posttranskriptionale Modifikation des AMPA Rezeptor Komplexes. (2008 – 2013)
 German research council (DFG); GA 427/8-1 The Role of Glutamate und Glutamate Receptors in Mouse Models for Emotional Behaviours and Mood Disorders. (2007-2011)
 Volkswagen foundation: Dynamik und Adaptivität neuronaler Systeme; (2005-2007).
 EU-Contract OLG3-CT-1999-01022; LTP Expression (2000-2003).
 German research council (DFG); SFB602/1-3 AMPA-Rezeptor vermittelte Plastizität (1998-2004)
 Volkswagen foundation; I/71776 I/75770 Regulated expression in mice of functionally altered key mediators of synaptic plasticity (1997-2003)

TEACHING

Student seminars:

WS 2000 - SS 2016: From genes to proteins (A practical course in DNA sequence analysis)

Student tutor:

Lecturer in the summer lecture of the interdisciplinary center for neuroscience in Heidelberg.
 Selection committee member for the Bachelor student in Biotechnology at the Heidelberg University

Practical courses

WS90/91, SS92, SS93, WS 95/96, Molecular Biology.

SS83, SS84, SS85. Microbiology

International summer schools:

Experimental Genetics of the Laboratory Mouse; Jackson laboratories; Bar Harbor 8/1994, 9/1995

EMBO a course on molecular neurophysiology; Hebrew University; Jerusalem 1999.

INSERM: Conditional mutagenesis in mice; Paris 9/2000, 10/2004

Frankfurter Graduiertenkollegs Neuronale Plastizität: Dresden 2/2003

14 SELECTED PUBLICATIONS (out of 223)

- Saab AS, Neumeier A, Jahn HM, Cupido A, Simek AA, Boele HJ, Scheller A, Le Meur K, Gotz M, Monyer H, **Sprengel R**, Rubio ME, Deitmer JW, De Zeeuw CI, and Kirchhoff F (2012). Bergmann glial AMPA receptors are required for fine motor coordination. *Science* *337*, 749-753.
- Ciocchi S, Herry C, Grenier F, Wolff SBE, Letzkus JJ, Vlachos I, Ehrlich I, **Sprengel R**, Deisseroth K, Stadler MB, Müller C, and Lüthi A (2010). Encoding of conditioned fear in central amygdala inhibitory circuits. *Nature* *468*, 277-282.
- von Engelhardt J, Mack V, **Sprengel R**, Kavenstock N, Li KW, Stern-Bach Y, Smit AB, Seeburg PH, and Monyer H (2010). CKAMP44: a brain-specific protein attenuating short-term synaptic plasticity in the dentate gyrus. *Science* *327*, 1518-1522.
- Bannerman DM, and **Sprengel R** (2007). Neuroscience: Remembering the subtle differences. *Science* *317*, 50-51.
- Bond CT, **Sprengel R**, Bissonnette JM, Kaufmann WA, Pribnow D, Neelands T, Storck T, Baetscher M, Jerecic J, Maylie J, Knaus HG, Seeburg PH, and Adelman JP (2000). Respiration and parturition affected by conditional overexpression of the Ca²⁺-activated K⁺ channel subunit, SK3. *Science* *289*, 1942-1946.
- Higuchi M, Maas S, Single FN, Hartner J, Rozov A, Burnashev N, Feldmeyer D, **Sprengel R**, and Seeburg PH (2000). Point mutation in an AMPA receptor gene rescues lethality in mice deficient in the RNA-editing enzyme ADAR2. *Nature* *406*, 78-81.
- Zamanillo D, **Sprengel R**, Hvalby O, Jensen V, Burnashev N, Rozov A, Kaiser KM, Koster HJ, Borchardt T, Worley P, Lubke J, Frotscher M, Kelly PH, Sommer B, Andersen P, Seeburg PH, and Sakmann B (1999). Importance of AMPA receptors for hippocampal synaptic plasticity but not for spatial learning. *Science* *284*, 1805-1811.
- Melcher T, Maas S, Herb A, **Sprengel R**, Seeburg PH, and Higuchi M (1996). A mammalian RNA editing enzyme. *Nature* *379*, 460-464.
- Brusa R, Zimmermann F, Koh DS, Feldmeyer D, Gass P, Seeburg PH, and **Sprengel R** (1995). Early-onset epilepsy and postnatal lethality associated with an editing-deficient GluR-B allele in mice. *Science* *270*, 1677-1680.
- Higuchi M, Single FN, Kohler M, Sommer B, **Sprengel R**, and Seeburg PH (1993). RNA editing of AMPA receptor subunit GluR-B: a base-paired intron-exon structure determines position and efficiency. *Cell* *75*, 1361-1370.
- Monyer H, **Sprengel R**, Schoepfer R, Herb A, Higuchi M, Lomeli H, Burnashev N, Sakmann B, and Seeburg PH (1992). Heteromeric NMDA receptors: molecular and functional distinction of subtypes. *Science* *256*, 1217-1221.

- Sommer B, Kohler M, **Sprengel R**, and Seeburg PH (1991). RNA editing in brain controls a determinant of ion flow in glutamate-gated channels. *Cell* 67, 11-19.
- Luddens H, Pritchett DB, Kohler M, Killisch I, Keinanen K, Monyer H, **Sprengel R**, and Seeburg PH (1990). Cerebellar GABAA receptor selective for a behavioural alcohol antagonist. *Nature* 346, 648-651.
- McFarland KC, **Sprengel R**, Phillips HS, Kohler M, Rosemblyt N, Nikolics K, Segaloff DL, and Seeburg PH (1989). Lutropin-choriogonadotropin receptor: an unusual member of the G protein-coupled receptor family. *Science* 245, 494-499.