

Rothermel, Markus, Dr. rer. nat.

Lab interest: **neuromodulation / neuroscience**

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PROFESSIONAL CAREER

- 2014- Independent Research Group Leader (DFG Emmy Noether-Program), Research Group *Neuromodulation*, Department of Chemosensation, Institute for Biology II, RWTH Aachen University
- 2010-2014 Postdoctoral fellow, Department of Neurobiology and Anatomy, School of Medicine, University of Utah, USA
- 2009-2010 Postdoctoral fellow, Department of Biology, Boston University; USA

UNIVERSITY EDUCATION AND ACADEMIC DEGREES

- 2009 Doktor rer. nat. (*summa cum laude*), Ruhr-University Bochum
- 2005 Diploma (Biology), Ruhr-University Bochum

AWARDS

- 2019 Member of the *International Symposium on Olfaction and Taste* (ISOT 2020) Program Committee
- 2017 Member of the *Association of Chemoreception Sciences* (AChemS) Program Committee
- 2017 Member of the *Interstellar Initiative*; The New York Academy of Sciences & Japan Agency for Medical Research and Development; ~ 20.000 Euro prize money
- 2016 Member of the *Young Academy of Europe*
- 2014 *Emmy Noether-Research Group*, Deutsche Forschungsgemeinschaft
- 2013 Polak Young Investigator Award 2013 Association of Chemoreception Sciences (AChemS) Huntington Beach, CA
- 2007 awarded participation of the 57th Meeting of Nobel Prize Winners (Physiology or Medicine) by the review panel of the Lindau Council; Graduiertenkolleg GRK 736 nominee; July 1st to 6th in Lindau 2007

SELECTED RESEARCH FUNDING (PAST 5 YEARS)

- 2018-2023 DFG Research Training Group 2416 “MultiSenses – MultiScales: Novel approaches to decipher neural processing in multisensory integration”, PI
- 2020-2022 IZKF (Interdisciplinary Center for Clinical Research) joint research project “Sodium channel-related pain disorders: From molecular mechanisms towards personalized treatment”, PI
- 2017 ERS (Exploratory Research Space) Grant, RWTH Aachen University
- 2016 ERS (Exploratory Research Space) Grant, RWTH Aachen University
- 2014 DFG Emmy Noether Program

MOST IMPORTANT PUBLICATIONS

1. Brunert D, **Rothermel M**. Neuromodulation of early sensory processing in the olfactory system (2019). *Neuroforum* 2019; 25(1)
2. McIntyre JC, Thiebaud N, McGann JP, Komiyama T, **Rothermel M**. Neuromodulation in Chemosensory Pathways (2017). *Chem Senses*. 2017 Jun 1;42(5):375-379. PubMed PMID: 28379355
3. Gee JM, Smith NA, Fernandez FR, Economo MN, Brunert D, **Rothermel M**, Morris SC, Talbot A, Palumbos S, Ichida J, Shepherd JD, West PJ, Wachowiak M, Capecchi MR, Wilcox KS, White JA, Tvrdik P. Imaging activity in neurons and glia with a Polr2a-based and cre-dependent GCaMP5G-IRES-tdTomato reporter mouse (2014). *Neuron*. 2014 Sep 3;83(5):1058-72. PubMed PMID: 25155958
4. **Rothermel M**, Wachowiak M. Functional imaging of cortical feedback projections to the olfactory bulb (2014). *Front Neural Circuits*. 2014; 8:73. PubMed PMID: 25071454;
5. **Rothermel M**, Carey RM, Puche A, Shipley MT, Wachowiak M. Cholinergic inputs from Basal forebrain add an excitatory bias to odor coding in the olfactory bulb (2014). *J Neurosci*. 2014 Mar 26;34(13):4654-64. PubMed PMID: 24672011.
6. **Rothermel M**, Brunert D, Zabawa C, Díaz-Quesada M, Wachowiak M. Transgene expression in target-defined neuron populations mediated by retrograde infection with adeno-associated viral vectors (2013). *J Neurosci*. 2013 Sep 18;33(38):15195-206. PubMed PMID: 24048849
7. Wachowiak M, Economo MN, Díaz-Quesada M, Brunert D, Wesson DW, White J, **Rothermel M**. Optical dissection of odor information processing in vivo using GCaMPs expressed in specified cell types of the olfactory bulb (2013). *J Neurosci*. 2013 Mar 20;33(12):5285-300. PubMed PMID: 23516293
8. **Rothermel M**, Ng BS, Grabska-Barwińska A, Hatt H, Jancke D. Nasal chemosensory-stimulation evoked activity patterns in the rat trigeminal ganglion visualized by in vivo voltagesensitive dye imaging (2011). *PLoS One*. 2011;6(10):e26158. PubMed PMID: 22039441
9. **Rothermel M**, Brunert D, Klupp BG, Luebbert M, Mettenleiter TC, Hatt H. Advanced tracing tools: functional neuronal expression of virally encoded fluorescent calcium indicator proteins (2009). *J Neurovirol*. 2009 Sep;15(5-6):458-64. PubMed PMID: 20105103.
10. **Rothermel M**, Schöbel N, Damann N, Klupp BG, Mettenleiter TC, Hatt H, Wetzel CH. Anterograde transsynaptic tracing in the murine somatosensory system using Pseudorabies virus (PrV): a "live-cell"- tracing tool for analysis of identified neurons in vitro (2007). *J Neurovirol*. 2007 Dec;13(6):579-85. PubMed PMID: 18097889.