

## Curriculum vitae

### PERSONAL INFORMATION

**Family name, First name:** Malkemper, Erich Pascal

**Researcher unique identifier:** ORCID 0000-0003-1099-0119

**Date of birth:** 24.06.1985

**Nationality:** German

**URL for web site:** [www.malkemper-lab.com](http://www.malkemper-lab.com) and

<https://www.caesar.de/en/research/groups/neurobiology-of-magnetoreception/>

### CURRENT POSITION

**2019 –** **Max Planck Research Group Leader**, Research Group ‘Neurobiology of Magnetoreception’, Research center caesar, Bonn, Germany. The work in my laboratory focusses on the strategies, sensory mechanisms and the underlying neural circuitry that allows mammals to navigate in total darkness, using African mole-rats as model organisms.

### PROFESSIONAL EXPERIENCE

**2016 – 2019** **PostDoc**, Research Institute of Molecular Pathology (IMP), Keays lab, Vienna, Austria.

**2015 – 2018** **Visiting Research Associate**, Department of Game Management and Wildlife Biology, Czech University of Life Sciences, Prague, Czech Republic.

**2014 – 2016** **PostDoc**, Department of General Zoology, University of Duisburg-Essen, Germany.

### EDUCATION

**2014** **PhD (summa cum laude)** Faculty of Biology, Department of General Zoology, University of Duisburg-Essen, Germany.

**2011** **Master of Science**, Faculty of Biology, Department of Animal Physiology, University of Bochum, Germany.

**2009** **Bachelor of Science**, Faculty of Biology, Department of Animal Physiology, University of Bochum, Germany.

### GRANTS

**2020** **European Research Council (ERC) Starting Grant.**

**2019** **Max Planck Research Group.**

**2016** **Volkswagen Experiment!**

**2016** **MERCUR starting grant.**

**2015** **Research grant for excellent young scientists.**

### HONORS, AWARDS

**2018** **Grocott Award.** Royal Society of Navigation (RIN).

**2015 – 2017** **Fellowship Global Young Faculty** (Mercator Research Centre).

**2015** **Fritz-Frank-Award**, Society for Mammalian Biology.

**2014** **Alessandro Chiabrera Memorial Award.** Bioelectromagnetics Society.

**2008 – 2014** **Scholarship of the Studienstiftung des deutschen Volkes.**

**2013** **Best conference talk of a young researcher.** German Society for Mammalian Biology.

### TEACHING

**Since 2019** Faculty member, International Max Planck Research School for Brain & Behavior (IMPRS) and Bonn International Graduate School of Neuroscience (BIGS), Bonn, Germany

**2021** Summerschool of the Bonn International Graduate School of Neuroscience (BIGS)

**2014 – 2016** Lecturer – Department of Biology, University of Duisburg-Essen, Essen, Germany

### STUDENTS SUPERVISED

**2020-** Runita Shirdhankar, PhD thesis (ongoing). Research center caesar.

Martha Daniel, PhD thesis (ongoing). Research center caesar.

**2021** Asma Mekhnache, Bachelor thesis. Rhine-Waal University of Applied Sciences.

- 2020** Aliona Novac, Bachelor thesis. Rhine-Waal University of Applied Sciences.  
**2019** Lara Möller, Master thesis. University of Duisburg-Essen.  
**2016** Anna Sternberg, Bachelor thesis. University of Duisburg-Essen.  
 Julia Herold, Master thesis. University of Duisburg-Essen.  
 Vanessa Schulz, Master thesis. University of Duisburg-Essen/Ruhr University Bochum  
 Ylva Kersten, Bachelor thesis. University of Duisburg-Essen.  
 Liza Psotta, Bachelor thesis. University of Duisburg-Essen.  
**2015** Christin Osadnik, Master thesis. University of Duisburg-Essen.  
 Jennifer Chmielnik, State examination thesis. University of Duisburg-Essen.  
**2014** Lisa Okon, Bachelor thesis. University of Duisburg-Essen.  
 Sarah Rzeha, State examination thesis. University of Duisburg-Essen.

### **ORGANISATION OF SCIENTIFIC MEETINGS**

- 2012** Co-organizer of a symposium on magnetoreception at the European Conference on Behavioural Biology (ECBB), Essen, Germany

### **INSTITUTIONAL RESPONSIBILITIES**

- Since 2021** Steering committee member, Bonn International Graduate School of Neuroscience (BIGS), Bonn, Germany  
**Since 2019** Genetic engineering project leader, Max Planck Research Group NMR, Research center caesar, Bonn, Germany  
**2014-2016** Faculty council member, Faculty of Biology, University of Duisburg-Essen, Germany  
**2013-2016** Laboratory safety officer, Department of General Zoology, University of Duisburg-Essen, Essen, Germany

### **REVIEWING ACTIVITIES**

- 2014-** **Reviewer for** Anatomia Histologica Embryologica, Animals, Animal Biology, Behaviour, Biological Reviews, Biology Letters, Brain Sciences, Cellular and Molecular Life Sciences, Communications Biology, Communicative & Integrative Biology, Ecological Indicators, Journal of Comparative Physiology A, Journal of Experimental Biology, Journal of Photochemistry and Photobiology B, Mammalian Biology, Marine and Freshwater Behaviour and Physiology, Nature Communications, Scientific Reports, Symmetry  
**2018** Expert panel member, Horizon 2020 EKLIPSE project “Impact of artificial electromagnetic radiation on wildlife”

### **INVITED TALKS**

- 2021** Biological colloquium, University of Bonn, Germany. “*Navigating in the dark - studying the magnetic sense of mole-rats.*”  
**2019** German Federal Office of Radiation Protection, International Workshop: Environmental effects of electric, magnetic and electromagnetic fields: Flora and Fauna, Munich, Germany. “*Magnetoreception in mammals*”  
**2018** Vachà Lab, Masaryk University, Brno, Czech Republic.  
 “*Of pigeons and mole-rats: The mystery of iron-based magnetoreception*”  
**2018** HSFP Workshop SeabirdAcoustics, University of Liverpool, UK.  
 “*How do animals detect magnetic cues?*”  
**2016** Phillips Lab, Virginia Tech, Blacksburg, VA USA.  
 “*Current projects on hearing and magnetoreception in mammals.*”  
**2016** Güntürkün Lab, Ruhr-University Bochum, Germany.  
 “*Studying magnetoreception in mammals*”  
**2015** Central Animal Laboratory Essen, Germany.  
 “*The sensory biology of canids*”  
**2015** Department of Physics, University Münster, Germany.  
 “*The magnetic sense of animals*”  
**2015** Annual Meeting of the German Physical Society (DPG), Berlin, Germany:  
 “*The future of magnetoreception research in animals*”

### **SELECTED CONFERENCE PRESENTATIONS**

- 2019 10<sup>th</sup> Conference of the Royal Society of Navigation (RIN), London (Talk)  
*"Searching for magnetite in the pigeon lagena"*
- 2018 LaVision BioTec UltraMicroscope User Meeting, Essen (Talk)  
*"Using iDISCO brain clearing to unravel the magnetic sense of mole-rats"*
- 2017 FENS-Hertie Winter School: Neural control of behaviour - Series 1: Navigation (Poster)  
*"A high-sensitivity screen for magnetite-based magnetoreceptors in the pigeon inner ear"*
- 2017 Topical Meeting of the Ethological Society, Bonn (Poster)  
*"Clear view on the neurobiology of mammalian magnetoreception"*
- 2016 9<sup>th</sup> Conference of the Royal Society of Navigation, London (Talk)  
*"Are the ferrous inclusions in the mole-rat cornea magnetoreceptors?"*
- 2015 African Small Mammal Symposium, Antananarivo (Talk)  
*"New insights into the magnetic sense of African mole-rats"*
- 2014 International Bio-Logging Science Symposium, Strasbourg (Talk)  
*"Novel techniques to assess spontaneous magnetic behavior in predatory foxes and other free roaming animals."*
- 2014 BioEM2014 conference, Cape Town (Poster)  
*"Magnetic nest building orientation in the wood mouse Apodemus sylvaticus"*
- 2013 Annual Meeting of the German Society for Mammalian Biology, Prague (Talk)  
*"Hearing in red foxes: Behaviour and morphology"*
- 2013 Ecology & Behaviour Meeting, Strasbourg (Poster)  
*"Magneto-acoustics in red foxes"*
- 2013 8<sup>th</sup> Conference of the Royal Society of Navigation, London (Poster)  
*"Magneto-acoustics in red foxes"*
- 2012 Sensory Ecology International Course for Postgraduate Students, Lund (Poster)  
*"The auditory sense of red foxes"*
- 2011 Central European Meeting on Genes, Gene Expression & Behaviour, Novè Hradý (Talk)  
*"Magnetically guided behaviour in rodents"*
- 2011 Annual Meeting of German Society for Mammalian Biology, Luxemburg (Poster)  
*"The dolphin cochlear nucleus"*

#### **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

**Royal Society of Navigation (RIN)**, active member (Animal navigation group)

**German Neuroscience Society (NWG)**, member

**German Society for Mammalian Biology (DGS)**, member

**German Zoological Society (DZG)**, member

**Ethological Society**, member

**Alumni of the German Academic Scholarship Foundation**, member