

# Prof. Dr. Thomas Wolbers

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## HIGHER EDUCATION

- 2005            Hamburg University: Ph.D. in Psychology (summa cum laude)  
1999            Free University Berlin / Hamburg University: Diploma in Psychology

## RESEARCH CAREER

- Since 2020     W3-Professor for Aging, Cognition & Technology, German Center for Neurodegenerative Diseases (DZNE), Otto-von-Guericke University Magdeburg, Germany  
Since 2013     Offers for full professorships at LMU Munich and Royal Holloway University London  
2013 - 2019    W2-Professor for Ageing and Cognition, German Center for Neurodegenerative Diseases (DZNE), Otto-von-Guericke University Magdeburg, Germany  
2009 – 2012    Senior Lecturer, Centre for Cognitive and Neural Systems, University of Edinburgh, UK  
2006 – 2008    Postdoctoral researcher at the Department of Psychology, UC Santa Barbara, USA, with Prof. Jack Loomis and Prof. Mary Hegarty  
2001 – 2005    Ph.D. student at the Department of Systems Neuroscience, University Medical Center Hamburg-Eppendorf, Germany, with Prof. Christian Büchel  
1999 – 2000    Research fellow at the Neurological Therapy Centre (NTC), Düsseldorf, Germany, with Prof. Volker Hömberg

## TEACHING EXPERIENCE

- Since 2022     Otto-von-Guericke University Magdeburg: Course organizer for the MSc course *Virtual Reality for Psychology and Neuroscience*  
Since 2021     Academic Institute for Higher Education Lübeck: Faculty member for lectures on *Virtual Reality Therapy and Cognitive Aging*  
2014 – 2022    Otto-von-Guericke University Magdeburg: Course organizer for the MSc course *Learning & Memory*  
2010 – 2012    University of Edinburgh: Course organizer for the Honours Neuroscience course *Cognitive Neuroscience*  
2009 – 2012    University of Edinburgh: Spatial Cognition Practical: Demonstration of spatial cognition experiments to undergraduate students.  
2007 – 2008    University of California Santa Barbara: Course organiser for the Psychology research seminar *Machine learning approaches to neuroimaging*  
2002/2003     Hamburg University: Course organiser for the Psychology research seminar *Functional brain imaging in cognitive psychology*

2001 – 2012 Hamburg University: Course organiser and faculty member for the annual course for Statistical Parametric Mapping (SPM), the leading software for neuroimaging data analysis.

### LEADERSHIP EXPERIENCE

Since 2020 Member of the steering committee of the [SFB 1436 Neural resources of cognition](#)

2018 Member of the selection committee for Ph.D. fellowships of the La Caixa foundation, Barcelona, Spain.

Since 2017 Member of the organising committee for the neuroscience graduate program, Center for Behavioral Brain Sciences, Otto-von-Guericke University Magdeburg

2016 Helmholtz Leadership Academy: 3-day course ‘Managing Cooperations’

2015 Helmholtz Leadership Academy: 7-day course ‘Leading Your Research Group’

2009 – date Supervision of 10 Postdocs, 12 Ph.D. students, and numerous MSc / BSc students and research assistants

2009 – 2012 Member of the selection committee for Ph.D. students at the Centre for Cognitive and Neural Systems, University of Edinburgh, UK

### OTHER PROFESSIONAL ACTIVITIES

June 2025 Founder and main organiser of [MindXR](#) - Shaping the Future of Mental Health Care

Since 2020 Co-founder of [neomento](#), a software company developing virtual reality therapies for mental disorders

2018 *Spatial navigation – a unique window into mechanisms of aging and dementia.* Symposium organised at the 2018 International Conference on Learning and Memory, Huntington Beach, USA.

2016 – date Main organizer and chair of the biannual *Interdisciplinary Symposium on Spatial Cognition in Aging and Neurodegeneration* ([iSCAN](#)), Magdeburg, Germany

2016 – date Main organizer and chair of the biannual *Interdisciplinary Symposium on Spatial Navigation* ([iNAV](#))

2014 Organization of the first *Vespucci Institute on Brain and Space*, Lisbon, Portugal.

2009 – 2012 Development of the first course on *Statistical Parametric Mapping (SPM)* in Scotland (University of Edinburgh)

### PRIZES, AWARDS, AND PERSONAL FELLOWSHIPS

2024 Impulse Innovation Panel, LaCaixa Foundation, Barcelona, Spain

2022 Harris Distinguished Visiting Professorship, Dartmouth College, USA

2019/2021 Paper of the Year Award, Center for Behavioral Brain Sciences (CBBS), Magdeburg

2018 Innovation to Application (I2A) Award (€30.000), German Center for Neurodegenerative Diseases

2017 Elected as Vice Chair of the Marie Skłodowska-Curie Individual Fellowships panel (EU)

2007 UC Santa Barbara: Harvey L. Karp Discovery Award (\$50.000)

2006 European Commission: Marie Curie Outgoing International Fellowship (three year postdoctoral fellowship, €250.000)

## FUNDING ID

2023 – 2026 *VESTAGE: a vestibular approach to understanding and treating cognitive decline in old age.* Funding body: Velux Foundation (Switzerland). €354.654

2021 – 2028 SFB 1436 Neural Resources of Cognition - Subproject B03: *Grid cell integrity as a neural resource for spatial navigation and episodic memory?* €588.200.

2022 – 2025 *Mechanisms and degradation of scale-invariance in mammalian navigation* (with Prof. Ehren Newman and Dr. Zoran Tiganj, Bloomington). Funding body: BMBF / National Science Foundation (USA). €467.750

2020 – 2022 *DZNE GridTask – Entwicklung eines virtual reality basierten Verhaltenstests zur Messung entorhinaler Pathologie.* Funding Body: Stiftung Deutsche Demenzhilfe. €40.000.

2021 – 2023 *AD\_GRIDS - altered grid cell computations in entorhinal cortex as a unique window into preclinical Alzheimer's disease?* Funding body: Centres of Excellence in Neurodegeneration (COEN). €222.497.

2019 – 2021 EXIST Forschungstransfer for the project *Virtual Reality-basierte Therapielösungen für die Behandlung von Angststörungen und Suchterkrankungen.* Funding body: German Ministry for Economic Affairs and Energy (BMWi). €791.022

2019 – 2022 *GRIDCAGE - altered grid codes as a fundamental mechanism of age-related cognitive decline?* Funding body: Velux Foundation (Switzerland). €299.000

2018 – 2020 *GeViRe – Gesichtsmaske zur Messung von Herzratenvariabilität und Hautleitwert in Verbindung mit kommerziell verfügbaren Virtual Reality Headsets.* Funding body: German Ministry for Education and Research (BMBF), Program: 'Gründungen: Innovative Start-ups für Mensch-Technik-Interaktion'. €580.847

2018 – 2022 *HD\_CODING – ein neuer Ansatz zur Diagnose und Therapie räumlicher Orientierungsstörungen bei dementiellen Erkrankungen.* Funding body: European Social Fund (ESF). €686.505

2018 – 2021 *Caudate computations in support of spatial navigation* (with Dr. Yong Gu, Chinese Academy of Sciences, Shanghai). Funding body: German Research Foundation (DFG) / National Science Foundation (China). €331.328

2017 – 2019 ERC Proof of Concept Grant for the project *NEOMENTO – Redefining Virtual Reality Therapy for Anxiety Disorders.* Funding body: European Research Council (ERC). €148.399

2016 – 2018 *AGETIME.* Funding body: European Social Fund (ESF). €280.000

2014 – 2018 *Probabilistic computation of location in the rodent and human hippocampus* (with Prof. Ila Fiete, University of Texas at Austin and Dr. Matthew Nolan, University of Edinburgh). Funding body: Human Frontiers Science Program (HFSP). €314.465

2013 – 2018 ERC Starting Grant for the project *Spatial Navigation – A Unique Window into Mechanisms of Cognitive Ageing (AGESPACE).* Funding body: European Research Council. €1.318.051

2013 – 2017 *Towards a quantitative understanding of navigational deficits in aging humans* (with Prof. Ila Fiete, MIT). Funding body: BMBF / National Science Foundation (USA). €396.929

- 2011 – 2013 Co-I for the project *Examining the neural correlates of spatial interference effects* (with Dr. M. Avraamides, University of Cyprus, and PD Dr. Mark May, Helmut-Schmidt University, Hamburg, Germany), Funding body: Cyprus Research Foundation.
- 2009 – 2012 Co-I for the project *Where is my goal? The functional, computational and neural basis of human survey knowledge* (with Dr. T. Meilinger, MPI for Biological Cybernetics, Tübingen, Germany). Funding body: German Research Foundation (DFG).
- 2009 – 2011 Co-I for the project *Elucidating the neural substrates of motor imagery: A new analytical approach to a longstanding clinical and behavioural question* (with Dr. M. Keehner, University of Dundee). Funding body: Scottish Imaging Consortium SINAPSE.
- 2006 – 2008 *Update your environment: Neural foundations of spatial updating in real and virtual space*. Funding body: European Commission. €260.570
- 2007 – 2008 *Coding for environmental geometry in the human brain - a neuroimaging study on sighted and congenitally blind participants and Using Diffusion Tensor Imaging to elucidate neural foundation of individual differences in spatial updating abilities*. Funding body: UC Santa Barbara Faculty Research Grant. \$10.000
- 2007 – 2008 *Bridging the gap between animal and human spatial cognition*. Funding body: UC Santa Barbara Harvey L. Karp Discovery Award. \$50.000

## EDITORIAL SERVICE

Ad-hoc reviewer for scientific journals: Science, Nature Reviews, Nature Human Behavior, PNAS, Psychological Science, Neuron, Current Biology, etc.

Ad-hoc reviewer for funding organisations: European Research Council (ERC), European Commission, Human Frontiers Science Program, Medical Research Council (UK), Netherlands Organisation for Scientific Research, German Research Foundation (DFG), Swiss National Science Foundation, Velux Foundation etc.

Editorial work: Editor for the journal *Spatial Cognition and Computation*

Learning and Memory (2018). Guest editor for a Frontiers Research Topic, together with M. Yassa (Irvine).

Spatial memory - a unique window into healthy and pathological aging (2014). Guest editor for a Frontiers Research Topic.

## KEY COLLABORATORS

Dr. Andrej Bicanski, Max-Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

Prof. Mary Hegarty, University of California Santa Barbara, USA

Prof. Hannah Monyer, DKFZ Heidelberg, Germany

Prof. Ehren Newman, Indiana University Bloomington, USA

Dr. Zoran Tiganj, Indiana University Bloomington, USA

## PUBLICATIONS

see [publication list](#)