

Dr. phil. habil. Gesa Hartwigsen, Dipl.-Psych. (PhD)

*1981 in Eckernförde, Germany

Current Position

Independent Research Group Leader (temporary W2 position)

Lise Meitner Research Group “Cognition and Plasticity”

Max Planck Institute for Human Cognitive and Brain Sciences (MPI CBS)

<https://www.cbs.mpg.de/independent-research-groups/cognition-and-plasticity>

Address (work)

Stephanstr. 1a, D-04103 Leipzig

phone: +49 341 9940 162

email: hartwigsen@cbs.mpg.de

<https://scholar.google.nl/citations?user=5YaFMKwAAAAJ&hl=de>

Research interest

- Neural networks for higher cognitive functions
- Adaptive plasticity and compensation in neural networks for cognition
- Plasticity and reorganization in the language network after stroke

Education

06/2018 Habilitation, University of Potsdam (*venia legendi*: Psychology)

07/2010 PhD (Dr. phil.), Kiel University (*summa cum laude*)

10/2006 Diplom (MSc equivalent) in Psychology, Kiel University

Academic experience

Since 2019 Lise Meitner Research Group Leader (W2), MPI CBS

2015-2018 Research Group Leader (W2), Modulation of Language Networks, Department of Neuropsychology, MPI CBS

2013-2015 Junior Professor (W1) for Biological Psychology, Kiel University

2013-2016 Guest Scientist, Department of Neurology, University of Leipzig

2011-2013 Research Fellow (PI), Department of Neurology, University of Leipzig

2010-2015 Guest Scientist, MPI-CBS Leipzig (Department of Neurology)

2010-2011 Postdoctoral Researcher, Department of Neurology, University of Leipzig

2007-2010 PhD Student, Department of Neurology, Kiel University

Appointments

2018 Lise Meitner Excellence Program of the Max Planck Society (W2 position with tenure track), accepted

2013 Junior Professorship (W1), Department of Psychology, Kiel University, accepted

Awards

2014 Fellowship, mentoring program for outstanding young scientists, Biopsychology and Neuropsychology section, German Society for Psychology (DGPs)

2011 Poster award (first author), ESMRMB

2009 DAAD Travel Grant, 15. Meeting of the Organization for Human Brain Mapping

2009 Trainee Travel Award, Organization for Human Brain Mapping

Funding

- 2019-2023 MPG Lise Meitner Research Group: ~ € 2,000,000
- 2018 NVIDIA GPU grant (Titan Xp donation): € 1350
- 2017-2020 *German Research Foundation* (DFG): Functional Segregation in the Default Mode Network (PIs D. Bzdok & G. Hartwigsen), Funding GH: € 164,725
- 2017-2020 *German Research Foundation* (DFG): Modulating neural network dynamics of speech comprehension (PIs: G. Hartwigsen & J. Obleser), Funding GH: € 186,320
- 2011-2013 *German Research Foundation* (DFG): Neuromodulation of phonological word processing with multifocal parieto-frontal transcranial magnetic stimulation, € 165,000
- 2011 Positive evaluation, *Young Scientists program of the Medical Faculty Leipzig*, starting grant for DFG projects, € 50,000
- Total funding: € 2,567, 395

Memberships

- Since 2017 Cognitive Neuroscience Society (CNS)
- Since 2016 Society for the Neurobiology of Language (SNL)
- Since 2014 German Society for Psychology (DPGs), Biological Psychology and Neuropsychology section
- Since 2012 German Society for Aphasia Research and Treatment (GAB)

Commissions of trust

- Since 2018 Associate Editor, *Frontiers in Psychology, Consciousness Research*
- Since 2018 Grant review panel member, *Academy of Finland*
- Since 2018 Reviewer, *Wellcome Trust Foundation*
- Since 2017 Advisory Board Member, *The Journal of Psycholinguistic Research*
- 2017 Reviewer, *Medical Research Council (MRC)*
- Since 2017 Review Editor, *Frontiers in Human Neuroscience*
- Since 2017 Editorial Board Member, *NeuroImage*
- Since 2017 Reviewer, *Fondation Francaise Pour La Recherche Sur l'Epilepsie*
- Since 2017 Review Editor, *Frontiers in Neurology: Stroke*
- Since 2016 Guest Associate Editor, *Frontiers in Integrative Neuroscience, Research Topic: Modulating Cortical Dynamics in Language, Speech and Music*
- Since 2016 Remote Reviewer, *Imperial College London, Faculty of Medicine*
- Since 2015 Reviewer, *German Research Foundation (DFG)*
- Since 2015 Review Editor, *Frontiers in Integrative Neuroscience*
- 2015 Reviewer, *European Research Council (ERC)*

Ad hoc Reviews

Archives of Clinical Neuropsychology, Aphasiology, Behavioral Brain Research, BMC Neuroscience, Brain, Brain and Behavior, Brain and Cognition, Brain and Language, Brain Connectivity, Brain Research, Brain Structure and Function, Cerebral Cortex, Clinical Neurophysiology, Cortex, Current Biology, European Journal of Neuroscience, Frontiers in Human Neuroscience, Frontiers in Integrative Neuroscience, Frontiers in Neurology, Human Brain Mapping, Journal of Cognitive Neuroscience, Journal of Neurological Surgery, Journal of Neuroscience, Journal of Neuroscience Methods, Journal of Neurophysiology, Journal of Physiology, Journal of Rehabilitation Medicine, NeuroImage, NeuroImage Clinical, Neuromodulation, Neuroscience and Biobehavioral Reviews, Neuroscience Letters, Neuropsychiatric Disease and Treatment, Neuropsychologia, Restorative Neurology and Neuroscience, PLoS One, Scientific Reports

Selected talks*Invited talks*

- 2019 Research Colloquium, UCL, London
- 2019 Keynote Lecture Annual GNP Conference Fulda
- 2018 Speech and Language Seminar, UCL, London
- 2018 Research Colloquium, University of Leiden
- 2018 Workshop “Crossing Boundaries: On sensorimotor and cognitive systems”, MPI-CBS
- 2018 Keynote lecture, IMPRS retreat, Berlin
- 2018 Research colloquium, *Language and Brain Laboratory*, University of Oxford
- 2018 Conference *Surgery Follows Function*, University of Graz
- 2018 International Workshop *Neurophonetics*, University of Marburg
- 2018 Workshop *Clinical Linguistics*, Bochum
- 2018 Lecture Series *Logopaedie im Dialog*, Coburg
- 2017 Research colloquium *Psychobiology and stress*, University of Trier
- 2017 Aphasia Workshop, Bergen University
- 2017 Research colloquium, Brain Language Laboratory, Freie Universitaet Berlin
- 2017 Research colloquium, Center for Mind/Brain Sciences, University of Trento, Italy
- 2016 Research colloquium General and Biological Psychology, University of Potsdam
- 2016 Research colloquium, Max Planck Institute for Empirical Aesthetics, Frankfurt
- 2015 Research colloquium, Clinical Psychology, Humboldt University Berlin
- 2015 Conference *Grammar Meeting*, University of Copenhagen
- 2015 Conference *The Brain and Gliomas*, University of Brescia
- 2015 Research colloquium, DZNE, University of Rostock
- 2015 Research colloquium, Medical Psychology, Kiel University
- 2014 Department of Nordic Studies and Linguistics, University of Copenhagen
- 2014 Research colloquium, Department of Psychology, University of Luebeck
- 2014 Rotary Club, Kiel
- 2013 Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Netherlands
- 2013 Department of Nordic Studies and Linguistics, University of Copenhagen
- 2012 Danish Research Centre for Magnetic Resonance, University of Copenhagen
- 2012 *Kolloquium Neurorehabilitation*, Rehabilitation Centre Leipzig-Bennewitz
- 2011 Research Colloquium, Department of Psychology, University of Leipzig
- 2010 Danish Research Centre for Magnetic Resonance, University of Copenhagen
- 2009 CONTACT Meeting Sandbjerg
- 2009 BMBF-Meeting, Department of Neurology, Freiburg University

Other talks

- 2018 MPI Day, Leipzig
- 2018 “Lange Nacht der Wissenschaften”, Leipzig
- 2018 Annual Meeting of the German Society for Clinical Neurophysiology and Functional Imaging (DGKN), Berlin
- 2017 Annual Meeting of the German Society for Neurology (DGN), Leipzig
- 2017 Annual Meeting of the German Society for Psychology (DGPs, Psychologie und Gehirn), Trier
- 2017 Annual Meeting of the DGKN, Leipzig
- 2017 Thirty-fifth European Workshop on Cognitive Neuropsychology, Brixen, Italy
- 2016 Annual Meeting of the DGN, Mannheim

- 2016 Annual Meeting of the DGPs (Psychologie und Gehirn), Berlin
- 2016 Annual Meeting of the DGKN, Duesseldorf
- 2015 Annual Meeting of the DGKN, Tuebingen
- 2015 Conference of Experimental Psychologists (TeaP), Hildesheim
- 2015 Annual Meeting of DGN, Munich
- 2014 Annual Meeting of the Organization for Human Brain Mapping, Hamburg
- 2014 Annual Meeting of the DGPs (Psychologie und Gehirn), Luebeck
- 2013 5th International Conference on Non-Invasive Brain Stimulation, Leipzig
- 2013 Annual Meeting of the DGKN, Leipzig
- 2013 Annual Meeting of the DGN, Dresden
- 2012 Annual Meeting of the DGN, Hamburg
- 2012 Annual Meeting of the DGPs (Psychologie und Gehirn), Jena
- 2012 Annual Meeting of the DGKN, Koeln
- 2012 German Neurologists Meeting, Lutherstadt Wittenberg

Organization of conferences & workshops

- 2013 Congress Secretary: 5th International Conference on NIBS, Leipzig
- 2012 Young Scientists Workshop: Transcranial brain stimulation techniques in Biological Psychology (with Dr. T.O. Bergmann) at the Psychologie und Gehirn, Jena

Chaired symposia

- 2018 *Neurostimulation: vom Mechanismus zur Anwendung beim Schlaganfall* (with L. Volz), Annual Meeting of the DGKN, Berlin
- 2017 *Faszination Sprache – Neuroanatomie, Plastizität und Rehabilitation* (with D. Saur), Annual Meeting of the DGN, Leipzig
- 2017 *Transcranial brain stimulation in psychology: from neural mechanisms to cognitive function* (with T.O. Bergmann), Psychologie und Gehirn, Trier
- 2017 *Nicht-invasive Neuromodulation nach Schlaganfall – was gibt es Neues?* (with L. Volz), Annual Meeting of the DGKN, Leipzig
- 2016 *Selected Presentations: Modelling and Biophysics* (with S.R. Soekadar), 6th International Conference on Transcranial Brain Stimulation, Goettingen
- 2016 *The neural dynamics of language: from cortical oscillations to plasticity in language networks* (with L. Meyer), Psychologie und Gehirn, Berlin
- 2014 *Auditory Cognition and Language* (with A. Bendixen), Psychologie und Gehirn, Luebeck
- 2014 *Modulation von Hirnnetzwerken für Sprache und Motorik: Kombination von NIBS mit funktioneller MRT* (with D. Saur), Annual Meeting of the DGN, Munich

Selected national and international collaborations

- Danilo Bzdok, Aachen University, Research Center Juelich, Germany & INRIA Neurospin, Paris, France
- Sven Bestmann & Nick Ward, Sobell Department of Motor Neuroscience and Movement Disorders, UCL Institute of Neurology, University College London, United Kingdom
- Paola Marangolo, IRCCS Fondazione Santa Lucia, Roma; Università Federico II, Napoli, Italy
- Vera Moliadze & Michael Siniatchkin, Department of Medical Psychology, UKSH Kiel, Germany
- Jonas Obleser, Department of Psychology, University of Luebeck, Germany
- Vitoria Piai & Jana Klaus, Donders Centre for Cognition and Radboud University Medical Centre, Nijmegen, Netherlands

Cathy J. Price, Wellcome Trust Centre for Neuroimaging, University College London, United Kingdom

Aditi Lahiri & Svetlana Schuster Language and Brain Laboratory, University of Oxford, United Kingdom

Dorothee Saur & Joseph Classen, Department of Neurology, University of Leipzig, Germany

Hartwig R. Siebner & Axel Thielscher, Danish Research Centre for Magnetic Resonance, Centre for Functional and Diagnostic Imaging and Research, Copenhagen University Hospital, Denmark

Ann-Maree Vallence, Urte Roeber, Robert O'Shea, School of Psychology and Exercise Science, Murdoch University, Perth, Australia

Further qualifications and committee memberships

- 2018 Workshop: Female Leadership in Science, MPI-CBS Leipzig
- 2018 Workshop & Coaching: Strategic Planning of Research Carriers, MPI-CBS Leipzig
- Since 2016 Module Representative Language & Communication, International Max Planck Research School on Neuroscience of Communication (IMPRS NeuroCom) Leipzig
- Since 2016 Faculty Member, IMPRS NeuroCom Leipzig
- 2015 Library Representative, Department of Psychology, Kiel University
- 2014-2015 Liaison Lecturer, Department of Psychology, Kiel University
- 2014-2015 Committee for the promotion of young scientists at the Faculty of Arts and Humanities, Kiel University
- 2014-2015 Budget committee, Faculty of Arts and Humanities, Kiel University
- 2014-2015 Individual coaching for newly appointed professors, Kiel University
- 2014 Teaching certificate (*premium course*), Kiel University
- 2013 Selection committee, PhD award of the Faculty of Arts and Humanities, Kiel University

Public and media

- 2018 Press release *Gehirn unter Strom* ("Student", October 2018)
- 2017 Press release *First aid in the brain: When language suddenly fails*
<https://www.cbs.mpg.de/731060/20170706-01>
- 2016 Detektor.fm *Das Netzwerk der Sprache*
<https://detektor.fm/wissen/forschungsquartett-neurowissenschaft-und-sprache>
- 2014 Article *Hoffnung für Schlaganfallpatienten* ("Kieler Nachrichten", 07.01.2014)
- 2013 Portrait in the "Unizeit" magazine (Kiel University), Nr. 78, 26.10.2013, <http://www.uni-kiel.de/unizeit/index.php?bid=780902>
- 2013 Press release *Sprechen nach dem Schlaganfall*, "Unizeit" magazine (Kiel University)
<http://www.uni-kiel.de/pressemeldungen/index.php?pmid=2013-362-sprachforschung>

Teaching

Lectures

- 2018 Block course (lectures & seminar): The functional neuroanatomy of language (full course), University of Fribourg, Switzerland
- 2017 Methods Lecture, Department of Psychology, Leipzig University: TMS & tDCS
- 2017 Richard-Jung-Kolleg of the DGKN, Leipzig, Curriculum Cognitive Neurology: TMS in cognitive neuroscience
- 2016 Methods Lecture, Department of Psychology, Leipzig University: Non-invasive brain stimulation: TMS & tDCS
- 2016 Lecture, IMPRS NeuroCom: Neural basis of speech and language production

- 2015 Annual Meeting of the DGN, Duesseldorf, Curriculum Cognitive Neurology, 2 lectures: The functional neuroanatomy of language & virtual lesions in the language network
- 2014 2nd TMS-EEG Summer School: Probing brain dynamics, Aalto University: Multimodal investigations of language networks with combined TMS-fMRI
- 2013 PhD course: Multimodal imaging, University of Copenhagen: Multimodal assessment of language related brain function and structure
- 2013 Functional NeuroImaging Forum, Kiel University: Zapping the brain
- 2012 PhD course: SPM of functional and structural MRI data of the human brain, University of Copenhagen: Correction for multiple comparisons
- 2012 Annual Meeting of the DGN, Curriculum Cognitive Neurology: Language functions in the right hemisphere
- 2012 Methods Lecture, Department of Psychology, Leipzig University: Transcranial magnetic stimulation
- 2011 PhD course: Linking Magnetic resonance imaging (MRI) to the neuroanatomy of the human brain, University of Copenhagen: Brain imaging: Language
- 2010 PhD course: SPM of functional and structural MRI data of the human brain, University of Copenhagen: Correction for multiple comparisons

Department of Psychology, Kiel University (as Junior Professor)

- 2015 Lecture Biological Psychology II (full lecture)
- 2015 Seminar Neuropsychological Disorders (full seminar)
- 2015 Student Colloquium (single lecture)
- 2014/15 Lecture Biological Psychology I (full lecture)
- 2014/15 Seminar Biological Psychology (full seminar)
- 2014/15 Student Colloquium (two single lectures)
- 2014 Experimental Psychological Training (full course)
- 2014 Lecture Biological Psychology II (full lecture)
- 2014 Student Colloquium (single lecture)
- 2013/14 Lecture Biological Psychology I (full lecture)
- 2013/14 Seminar: Cognitive Neuroscience & Neuropsychology (full seminar)
- 2014 Lecture: Transcranial Magnetic Stimulation (lecture series: the transparent brain, Medical Faculty, Kiel University, single lecture)
- 2013 Experimental Psychological Training (2 full training courses)

Chaired PhD defense committees

- 2017 Juliane Becker, Kiel University
- 2017 Leif Trampenau, Kiel University

Supervision and co-supervision of PhD students (n=9)

- Since 2018 Sandra Martin (MPI-CBS Leipzig), The potential of transcranial magnetic stimulation to facilitate aphasia recovery
- Since 2017 Ole Numssen (MPI-CBS Leipzig), Functional Segregation in the Default Mode Network, *funded by the DFG to GH*
- Since 2017 Anna Rysop (MPI-CBS Leipzig), Modulating neural network dynamics of speech comprehension, *funded by the DFG to GH*
- Since 2016 Pei-Ju Chien (MPI-CBS Leipzig), Neural networks for lexical tone and intonation in Mandarin Chinese

- Since 2016 Astrid Graessner (MPI-CBS Leipzig), Understanding network interactions in minimal word combinations
- Since 2016 Philipp Kuhnke (MPI-CBS Leipzig), Neural networks for conceptual processing
- Since 2015 Stan van der Burght (MPI-CBS Leipzig), Modulating Interactions between prosody and syntax
- 2014-2017 Juliane Becker (Kiel University), Establishing valid neuropsychological assessments in patients with gliomas undergoing awake surgery
- 2013-2017 Leif Trampenau (Kiel University), Grip force modulation in the healthy brain and in PD patients (Kiel University)

Supervision of Diploma and Master's students (n=22)

- Since 2018 Joelle Schroen (Maastricht University), Examining the Functional Relevance of Frontal and Temporal Brain Areas for Semantic Processing
- Since 2018 Luca May (Kiel University), interleaved TMS during Training facilitates motor consolidation
- 2018 Laura Nieberlein (University of Munich), the role of the left pMTG in semantic interference processing
- 2018 Carolin Wipfler (Kiel University), The role of the left primary motor cortex in speech perception –developing an effective paradigm for an rTMS study
- 2018 Anna Rysop (University of Marburg, Cognitive Neuroscience), Modulating syntactic gender processing – a TMS-EEG study
- Since 2017 Lisa Kunz (University of Marburg), Neural correlates of tDCS-induced improvements during verb learning
- 2017 Melissa Hitzler (University of Leipzig), Implicit syntactic abilities in 2.5-year-old children: Evidence from pupillometry
- 2017 Ole Numssen (Kiel University), Modelling the Effects of Transcranial Magnetic Stimulation at the Neurophysiological Level
- 2017 Tilo Zotschew (Kiel University), Premotor Contributions to Prosody Perception: A Transcranial Magnetic Stimulation Study
- 2017 Anne Elsner (University of Dresden), Influence of the posterior inferior frontal gyrus on processing of ambiguous sentences
- 2017 Anna Rysop (University of Marburg), Modulating semantic networks during intact and disrupted language processing – evidence from combined TMS-EEG
- 2016 Philipp Kuhnke (University of Osnabrueck), The Neural Basis of Argument-Verb Dependency Processing – A Repetitive Transcranial Magnetic Stimulation Study
- 2016 Maria Reukauf (Kiel University), Reliability and validity of the CPTI in children
- 2016 Dustin Rochow (Kiel University), The role of context variables on sexual arousal in healthy women
- 2016 Johanna Geritz (Kiel University), Validity of the CTMT in patients with neuropsychological disorders
- 2016 Elisa Pawlitzki (Kiel University), Postural instability in patients with Parkinson's disease
- 2016 Jannis Engel (Kiel University), Evaluation of the "*Dunkelfeldprojekt*" to treat risk factors in paedophilia
- 2015 Anna Springborg (Kiel University), Menstrual cycle phase and sexual preferences in women
- 2014 Stephanie Brombacher (Kiel University), Validation of the FAB Scale
- 2010 Ole Maass (Kiel University), Modulation of phonological and semantic language aspects with TMS: Interactions between parietal and frontal regions
- 2010 Gesine Geiss (Kiel University), Modulation of phonological and semantic language aspects with TMS: The role of the inferior frontal gyrus

2010 Maria Koehnke (Kiel University), Modulation of phonological and semantic language aspects with TMS: The role of the supramarginal gyrus (Kiel University)

Co-supervision of MD students (n=5)

2015-2017 Anni Weigel (University of Leipzig), The role of parietal and frontal regions in phonological and semantic word decisions: a TMS study

2013-2015 Maren Klein (University of Leipzig), Modulation of phonological and semantic brain networks: a combined TMS-fMRI study

2013-2017 Christin Wendt (University of Leipzig), Neural networks for semantic integration

2012-2014 Thomas Golombek (University of Leipzig), The role of the angular gyrus in degraded speech processing

2008-2012 Saskia Woerbel (Kiel University), Parieto-frontal contributions to action reprogramming

Supervision of interns and student assistants (n=22)

Since 2019 Isabel Gebhardt (University of Leipzig)

Since 2018 Joelle Schroen (Maastricht University)

Since 2018 Luca May (Kiel University), Annika Tjuka (Humboldt University Berlin)

Since 2017 Marie Beaupain (University of Leipzig), Laura Nieberlein (University of Munich), Lisa Kunz (University of Marburg)

2017 Louise Charpentier (University of Grenoble), Lisa Reimund (University of Leipzig)

Since 2016 Dagny Kühner (University of Leipzig)

2016 Anne Elsner (University of Dresden), Anna Rysop (University of Marburg)

2016 Ole Numssen, Carolin Wipfler, Tilo Zotschew (Kiel University)

2015-2016 Maike Herrmann (University of Leipzig), Sabrina Turker (University of Graz)

Since 2015 Dana Seidel (University of Leipzig)

2013-2015 Florian Flietner, Torben Jansen (Kiel University)

2011-2013 Max Wawrzyniak, Enrico Timoschenko (University of Leipzig)

Publications

Number of peer-reviewed publications: n=44 (21 as first author; 9 as senior author)

H-index: 19 (Google Scholar), 16 (Scopus), 15 (Web of Science), **i10-Index:** 22

Impact Factor: ~259 (5-year impact factor, Web of Science)

Number of citations: ~1347 (Google Scholar)

Google Scholar: <https://scholar.google.nl/citations?user=5YaFMKwAAAAJ&hl=de>

Number of book chapters: 3 (2 as first author, 1 as senior author)

Peer-reviewed publications

1. Baumann, A., Nebel, A., Granert, O., Giehl, W., Wolff, S., Schmidt, W., Baasch, C., Schmidt, G., Witt, K., Deuschl, G., **Hartwigsen, G.**, Zeuner, K.E. & van Eimeren, T. (in press). Neural correlates of dysarthrophonia and mechanisms of effective voice treatment in Parkinson's disease. *Neurorehabil Neural Repair*.
2. Baumgaertner, A., **Hartwigsen, G.** & Siebner, H.R. (2013). Right-hemispheric processing of non-linguistic word features: implications for mapping language recovery after stroke. *Hum Brain Mapp*, 34(6), 1293-1305.
3. Bzdok, D.*, **Hartwigsen, G.***, Reid, A., Laird, A., Fox, P. & Eickhoff, S.A. (2016). A hierarchy of left inferior parietal lobe engagement in social cognition and language. *Neurosci Biobehav Rev* 68, 319-334. *[equal contribution].
4. Becker, J., Jehna, M., Steinmann, E., Mehdorn, H.M., Synowitz, M. & **Hartwigsen, G.** (2016). The sensory-motor profile awake – A new tool for pre-, intra-, and postoperative assessment of sensory-motor function. *Clin Neurol Neurosurg* 147, 39-45
5. Becker, J., Jehna, M., Larsen, N., Synowitz, M., & **Hartwigsen, G.** (2016). Glioblastoma in Hemihydranencephaly: Pre- and postoperative language ability of the right hemisphere. *Acta Neurochirurgica* 158(7), 1317-1323.
6. Becker, J., Steinmann, E., Könemann, M., Gabske, S., Mehdorn, H.M., Synowitz, M., **Hartwigsen, G.** & Goebel, S. (2016). Cognitive Screening in patients with intracranial tumor: Validation of the BCSE. *J Neurooncol* 127(3), 559-567.
7. Bergmann, T.O., Karabanov, A., **Hartwigsen, G.**, Thielscher, A. & Siebner, H.R. (2016). Combining non-invasive brain stimulation with neuroimaging and electrophysiology: current approaches and future perspectives. *NeuroImage*. doi: 10.1016/j.neuroimage.2016.02.012.
8. Fiori, V., Kunz, L., Kuhnke, P., Marangolo, P., **Hartwigsen, G.** (2018). Transcranial direct current stimulation (tDCS) facilitates verb learning by altering effective connectivity in the healthy brain. *NeuroImage*. doi: 10.1016/j.neuroimage.2018.07.040.
9. Goranskaya, D., Kreitewolf, J., Mueller, J., Friederici, A.D. & **Hartwigsen, G.** (2016). Fronto-parietal contributions to phonological processes in successful artificial grammar learning. *Front Hum Neurosci* Nov 8;10:551.
10. **Hartwigsen, G.** (2018). Flexible redistribution in cognitive networks. *Trends Cogn Sci* 22 (8): 687-698.
11. **Hartwigsen, G.** & Bzdok, D (2018). Univariate group vs. multivariate subject analysis of short-term reorganization in the language network. *Cortex*. doi: 10.1016/j.cortex.2018.06.013
12. **Hartwigsen, G.**, Bzdok, D., Klein, M., Wawrzyniak, M., Stockert, A., Wrede, K., Classen, J. & Saur, D. (2017). Rapid short-term reorganization in the language network. *eLife* 2017;10.7554/eLife.25964.

13. **Hartwigsen, G.***, Neef, N.E*., Camilleri J., Margulies, D., & Eickhoff, S.B. (in press). Functional segregation of the right inferior frontal gyrus: Evidence from coactivation-based parcellation. *Cereb Cortex*. *[equal contribution]
14. **Hartwigsen, G.** & Saur, D. (2017). Neuroimaging of stroke recovery from aphasia - Insights into plasticity of the human language network. *NeuroImage*. 2017 Nov 23. pii: S1053-8119(17)31000-5. doi: 10.1016/j.neuroimage.2017.11.056. [Epub ahead of print].
15. **Hartwigsen, G.** (2016). Adaptive plasticity in the healthy language network. Implications for language recovery after stroke. *Neural Plasticity* 2016: 9674790. Epub 2016 Oct 18.
16. **Hartwigsen, G.**, Henseler, I., Stockert, A., Wawrzyniak, M., Wendt, C., Klingbeil, J., Baumgaertner A. & Saur, D. (2016). Integration demands modulate effective connectivity in a fronto-temporal network for contextual sentence integration. *NeuroImage*. 2016 Aug 16. pii: S1053-8119(16)30410-4. doi: 10.1016/j.neuroimage.2016.08.026.
17. **Hartwigsen, G.**, Weigel, A., Schuschon, P., Siebner, H.R., Weise, D., Classen, J. & Saur, D. (2016). Dissociating parieto-frontal networks for phonological and semantic word decisions. A condition-and-perturb TMS study. *Cereb Cortex* 26(6), 2590-2601.
18. **Hartwigsen, G.**, Bergmann, T.O., Herz, D.M., Angstmann, S., Karabanov, A., Raffin, E., Thielscher, A. & Siebner, H.R. (2015). Modeling the effects of non-invasive transcranial brain stimulation at the biophysical, network and cognitive level. *Prog Brain Res* 222, 261-287.
19. **Hartwigsen, G.**, Golombek, T. & Obleser, J. (2015). Repetitive transcranial magnetic stimulation over left angular gyrus modulates the predictability gain in degraded speech comprehension. *Cortex* 68: 100-110.
20. **Hartwigsen, G.** & Siebner, H.R. (2015). Joint contribution of left dorsal premotor cortex and supramarginal gyrus to rapid action reprogramming. *Brain Stimul* 8(5), 945-952.
21. **Hartwigsen, G.** (2015). The Neurophysiology of Language: Insights from non-invasive brain stimulation in the healthy human brain. *Brain Lang* 148:81-94.
22. **Hartwigsen, G.**, Saur, D., Price, C.J., Baumgaertner, A., Ulmer, S. & Siebner, H.R. (2013). Increased facilitatory connectivity from the pre-SMA to the left dorsal premotor cortex during pseudoword repetition. *J Cogn Neurosci*, 25, 580-594.
23. **Hartwigsen, G.**, Saur, D., Price, C.J., Ulmer, S., Baumgaertner, A. & Siebner, H.R. (2013). Perturbation of left posterior inferior frontal gyrus triggers adaptive plasticity in the right homologue during speech production. *Proc Natl Acad Sci U S A*, 110(41), 16402-16407.
24. **Hartwigsen, G.**, Bestmann, S., Ward, N.S., Woerbel, S., Mastroeni, C., Granert, O. & Siebner, H.R. (2012). Left dorsal premotor cortex and supramarginal gyrus complement each other during rapid action reprogramming. *J Neurosci*, 32(46), 16162-16171.
25. **Hartwigsen, G.**, & Siebner, H.R. (2012). Probing the involvement of the right hemisphere in language processing with online transcranial magnetic stimulation in healthy volunteers. Review. *Aphasiology*, 26(9), 1131-1152.
26. **Hartwigsen, G.**, Baumgaertner, A., Price, C.J., Koehnke, M., Ulmer, S. & Siebner, H.R. (2010). Efficient phonological decisions require both the left and right supramarginal gyri. *Proc Natl Acad Sci U S A*, 107, 16494-16499.
27. **Hartwigsen, G.**, Price, C.J., Baumgaertner, A., Geiss, G., Koehnke, M., Ulmer, S. & Siebner, H.R. (2010). The right posterior inferior frontal gyrus contributes to phonological word decisions in the healthy brain: Evidence from dual-site TMS. *Neuropsychologia*, 48, 3155-3163.
28. **Hartwigsen, G.**, Siebner, H.R., Deuschl, G., Jansen, O. & Ulmer, S. (2010). Incidental findings are frequent in young healthy individuals undergoing MRI in brain research imaging studies: a prospective single center study. *J Comput Assist Tomo*, 34(4), 596-600.

29. **Hartwigsen, G.**, Siebner, H.R. & Stippich, C. (2010). Preoperative functional magnetic resonance imaging (fMRI) and transcranial magnetic stimulation (TMS). *Curr Med Imaging Rev*, 6(4), 220-231.
30. Kroczek, L.O.H., Gunter, T.C., Rysop, A.U., Friederici, A.D. & **Hartwigsen, G.** (in press). Contributions of left frontal and temporal cortex to sentence comprehension: Evidence from simultaneous TMS-EEG. *Cortex*.
31. Kuhnke, P., Meyer, L., Friederici, A.D., & **Hartwigsen, G.** (2017). Left Posterior Inferior Frontal Gyrus is Causally Involved in Reordering During Sentence Processing. *NeuroImage*. 2017 Jan 7;148:254-263. doi: 10.1016/j.neuroimage.2017.01.013.
32. Kummerer, D., **Hartwigsen, G.**, Kellmeyer, P., Glauche, V., Mader, I., Kloppel, S., Suchan, J., Karnath, H.O., Weiller, C. & Saur, D. (2013). Damage to ventral and dorsal language pathways in acute aphasia. *Brain*, 136, 619-629.
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Editorials

Hartwigsen, G., Scharinger, M. & Sammler, D. (2018). Modulating Cortical Dynamics in Language, Speech and Music. *Frontiers in Integrative Neuroscience*.

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Book chapters

Hartwigsen, G., Kassuba, T & Siebner, H.R. (2009). Combining transcranial magnetic stimulation with (f)MRI. In S. Ulmer & O. Jansen (Eds.), *fMRI: Basics and clinical applications* (pp. 155-167, 2nd Edition). Heidelberg: Springer.

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Monographies

Hartwigsen, G. (2018). Parieto–frontal contributions to language: Insights from transcranial magnetic stimulation. *Habilitationsschrift*. University of Potsdam.

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Selected conference proceedings

Hartwigsen, G., Ulmer, S., Baumgaertner, A. & Siebner, H.R. (2010). The rostral supplementary motor area supports the repetition of visually and auditorily presented pseudowords. In: Proceedings of the Annual meeting of the ISMRM & ESMRMB, 421.

Hartwigsen, G., Woerbel, S., Granert, O. & Siebner, H.R. (2009). Enhancing the disruptive effect of “online” TMS targeting left supramarginal gyrus by 1 Hz “offline” conditioning of left dorsal premotor cortex. *NeuroImage* 47, suppl.1, S171.

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Selected posters (n= 59, as first author: 14, senior author: 30, coautor: 15)

2019 Organization for Human Brain Mapping (OHBM), Rome: *Berkers et al.*, *Graessner et al.*, *Klaus and Hartwigsen*, *Kuhnke et al.*, *Rysop et al.*, *van der Burght et al.*

Cognitive Neuroscience Society (CNS), San Fransisco: *Schmitt et al.*, *Rysop et al.*

3rd International Brain Stimulation Conference, Vancouver: *Moliadze et al.*

Speech in Noise Workshop, Genf: *Rysop et al.*

2018 *Visions in Science*, Berlin: *Graessner et al.*

- German Society for Clinical Neurophysiology and Functional Imaging (DGKN), Berlin: *Stenner et al.*
- DBS Summer School, Köln: *Martin et al.*
- DGBMT, Annual Conference, Aachen: *Weise et al.*
- Federation of European Neuroscience Societies (FENS), Berlin: *Mathias et al.*
- IMPRS Retreat, Berlin: *Chien et al., Graessner et al., Numssen et al.*
- Neurobiology of Language, Quebec: *Gunter et al.*
- OHBM, Singapur: *Numssen et al., Schuster et al.*
- 2017 Neurobiology of Language (SNL), Baltimore: *Meyer et al., van der Burght et al.*
- Society for Neuroscience (SfN), Chicago: *van der Burght et al.*
- Erasmus Mundus Workshop, Leipzig: *Mathias et al.*
- IMPRS Summer School, London: *Graessner et al.*
- German Society for Neurology (DGN), Leipzig: *Stockert et al.*
- German Society for Clinical Neurophysiology and Functional Imaging (DGKN), Leipzig: *Kuhnke et al., Stockert et al.*
- 2016 Organization for Human Brain Mapping (OHBM), Geneva: *Goranskaya et al.*
- Neurobiology of Language, London: *Hartwigsen et al.*
- 2015 IMPRS Summer School, Leipzig: *Goranskaya et al., van der Burght et al.*
- 2014 Research Festival, Leipzig: *Weigel et al.*
- Organization for Human Brain Mapping (OHBM), Hamburg: *Hartwigsen et al.*
- German Society for Neurology (DGN), Munich: *Wawrzyniak et al.*
- 2013 German Society for Clinical Neurophysiology and Functional Imaging, Leipzig: *Golombek et al., Hartwigsen et al., Henseler et al., Klein et al., Reiche et al., Stockert et al.*
- 5th International Conference on Non-Invasive Brain Stimulation, Leipzig: *Klein et al.*
- Research Meeting Kiel Life Sciences, Schleswig: *Hartwigsen et al.*
- 2012 Gesellschaft für Aphasieforschung und -behandlung, Leipzig: *Klein et al.*
- German Society for Neurology (DGN), Hamburg: *Klein et al.*
- Neurobiology of Language, San Sebastian: *Hartwigsen et al.*
- 2011 DGKN, Münster: *Hartwigsen et al.*
- German Society for Neurology (DGN), Wiesbaden: *Hartwigsen et al.*
- German Society for Psychology (Psychologie und Gehirn), Heidelberg: *Hartwigsen et al.*
- European Society for Magnetic Resonance in Medicine and Biology: *Hartwigsen et al.*
- 2010 OHBM, Barcelona: *Hartwigsen et al. (2x)*
- 2009 OHBM, San Francisco: *Groppa et al., Hartwigsen et al.*
- 2008 Psychologie und Gehirn, Magdeburg: *Hartwigsen et al.*
- 2007 Society for Neuroscience (SfN), San Diego: *Schlaak et al.*
- 2006 International Conference for Research in Forensic Psychiatry, Regensburg: *Hartwigsen et al.*