

Prof. Dr. Gesa Hartwigsen, Dipl.-Psych. (PhD)

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Professor for Cognitive and Biological Psychology, Leipzig University & 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>
<https://scholar.google.nl/citations?user=5YaFMKwAAAAJ&hl=de>

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

2022 – Professor for Cognitive and Biological Psychology, Leipzig University
2021 – 2022 12.5% Professor II Position, Dept. of Biological and Medical Psychology, University of Bergen
2019 Visiting Fellow, QUT, Brisbane, Australia
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 Assistant Professor for Biological Psychology, Kiel University
2013 – 2016 Guest Scientist, Department of Neurology, Leipzig University
2011 – 2013 Research Fellow (PI), Department of Neurology, Leipzig University
2010 – 2015 Guest Scientist, MPI CBS, Department of Neurology
2010 – 2011 Postdoctoral Researcher, Department of Neurology, Leipzig University
2007 – 2010 PhD Student, Department of Neurology, Kiel University

Appointments

2022 Full Professor for Cognitive and Biological Psychology, Leipzig University (accepted)
2021 Full Professor for Biological Psychology, Innsbruck University (declined)
2018 Associate Professor, (with tenure track), Lise Meitner Excellence Program, Max Planck Society
2015 Research Group Leader (W2), Dept. of Neuropsychology, MPI CBS
2013 Assistant Professor (W1) for Biological Psychology, Kiel University

Fellowships and Awards

2022 Poster award (senior author), TBS in Cognitive Neuroscience Workshop, Rovereto (first author: P. Kuhnke)
2020 Poster award (senior author), DGKN (first author: S. Martin)
2020 Early Career Award, Society for the Neurobiology of Language
2019 Visiting fellowship, QUT, Institute of Health and Biomedical Innovation
2019 Top 5 Scientist, USERN Competition

- 2014 Fellowship, mentoring program for outstanding young scientists, Biopsychology and Neuropsychology section, DGPs
- 2011 Poster award (first author), ESMRMB
- 2009 DAAD travel award, 15. Meeting of the Organization for Human Brain Mapping
- 2009 Trainee Travel Award, Organization for Human Brain Mapping

Memberships

- 2022 – German Society for Clinical Neurophysiology and Functional Imaging (DGKN)
- 2021 – German Society for basic and applied Psychophysiology (DGPA)
- 2014 – German Society for Psychology (DPGs)

Selected commissions of trust

- 2020 – Associate Editor, Experimental Psychology
- 2020 – Associate Editor, NeuroImage: Reports
- 2020 – External referee, PhD theses, QUT, Brisbane (AUS)
- 2020 – Reviewer, PhD theses, University of Trento
- 2019 – Associate Editor, Journal of Neuroscience
- 2019 – Reviewer, MD theses, Medical Faculty, Leipzig University
- 2019 Reviewer, Conference on Cognitive Computational Neuroscience (CCN)
- 2018 – Associate Editor, Frontiers in Psychology, Consciousness Research
- 2018 – Advisory Board, The Journal of Psycholinguistic Research
- 2017 – Editorial Board Member, NeuroImage
- 2017 – Poster Jury, Annual Conference Psychologie und Gehirn
- 2016 – 2018 Guest Associate Editor, Frontiers in Integrative Neuroscience
- 2015 – Review Editor, Frontiers in Integrative Neuroscience & Frontiers in Human Neuroscience

Reviewer for numerous grant agencies (including Academy of Finland, Agence Nationale de la Recherche Francaise (ANR), Biotechnology and Biological Sciences Research Council (BBSRC), European Research Council (ERC), Fondation Francaise Pour La Recherche Sur l'Epilepsie, German Research Foundation (DFG), KU Leuven Research Council, Medical Research Council (MRC), Wellcome Trust Foundation)

Ad hoc Reviewer for > 50 international peer-reviewed journals (including Current Biology, eLife, Nature Human Behavior, PNAS, J Neuroscience)

Selected talks

Invited talks (n>60)

- 2022 Center for Brain Recovery, Boston University
- 2022 TBS in Cognitive Neuroscience Workshop, Rovereto
- 2022 BMS Symposium, Max Planck Society Berlin
- 2022 NWG Practical Course Transcranial Brain Stimulation: Best Practice, Mainz
- 2022 EPFL Workshop on Causality, University of Geneva
- 2022 LIFE Theory Lab, MPI for Human Development, Berlin
- 2022 Centre for Neuroimaging Sciences, King's College London
- 2021 Keynote Lecture, ICBEM (virtual meeting)
- 2021 2nd International Workshop on Non-Invasive Brain Stimulation, Minnesota
- 2021 Neurobiology of Language: Key Issues and Ways Forward, Nijmegen
- 2021 Research colloquium, Bangor University

- 2020 C-Star Lecture, University of South Carolina
- 2020 Chaucer Club, Cambridge University
- 2020 Award Lecture, Society for the Neurobiology of Language, Philadelphia
- 2020 Tuebingen University
- 2020 23. Therapeutentreffen, Day Clinic for Cognitive Neurology, Leipzig
- 2020 *Vom Reiz der Sinne: Gehirn und Kommunikation*, Nürnberg
- 2019 Research colloquium, Zurich University
- 2019 2nd International Symposium on Advancing Stimulation Precision Medicine of Brain Disorders, Copenhagen
- 2019 Research Colloquium, MPI for Psycholinguistics, Nijmegen
- 2019 IHBI Seminar, QUT, Brisbane
- 2019 Autumn School in Neuroscience, Oxford
- 2019 Brainbox Initiative Conference, London
- 2019 Keynote lecture, German Society for Neuropsychology (GNP), Fulda
- 2019 ICN Seminar, UCL, London
- 2019 Research colloquium, RWTH Aachen
- 2019 Research colloquium, University of Lübeck
- 2019 Annual Meeting of the German Society for Neurosurgery (DGNC), Halle
- 2019 ICN Seminar, UCL, London
- 2018 Speech and Language Seminar, UCL, London
- 2018 Research colloquium, University of Leiden
- 2018 Workshop *Crossing Boundaries*, 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, FU Berlin
- 2017 Research colloquium, CiMeC, University of Trento
- 2016 Research colloquium, University of Potsdam
- 2016 Research colloquium, Max Planck Institute for Empirical Aesthetics, Frankfurt
- 2015 Research colloquium, Clinical Psychology, Humboldt University Berlin
- 2015 *Grammar Meeting*, University of Copenhagen
- 2015 *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
- 2013 Department of Nordic Studies and Linguistics, University of Copenhagen
- 2012 Danish Research Centre for Magnetic Resonance, University of Copenhagen
- 2012 *Colloquium Neurorehabilitation*, Rehabilitation Centre Leipzig-Bennewitz

- 2011 Research Colloquium, Department of Psychology, University of Leipzig
 2010 Danish Research Centre for Magnetic Resonance, University of Copenhagen

Other talks (n>30)

- 2022 Organization for Human Brain Mapping (OHBM), Glasgow
 2022 AAAS Annual Meeting, Philadelphia
 2021 20th World Congress of Psychophysiology (IOP, virtual)
 2021 Symposium, Psychologie und Gehirn, Tübingen (virtual)
 2021 Annual Meeting of the DGKN, Frankfurt (virtual)
 2020 7th International Conference on NIBS, Baden Baden (virtual)
 2020 Symposium, Cognitive Neuroscience Society (CNS), Boston (virtual)
 2019 7th Meeting of the FESN, Milan
 2019 Annual Meeting of the DGKN, Freiburg
 2018 MPI Day, Leipzig
 2018 *Lange Nacht der Wissenschaften*, Leipzig
 2018 Annual Meeting of the DGKN, Berlin
 2017 Annual Meeting of the German Society for Neurology (DGN), Leipzig
 2017 *Psychologie und Gehirn*, Trier
 2017 Annual Meeting of the DGKN, Leipzig
 2017 Thirty-fifth European Workshop on Cognitive Neuropsychology, Brixen
 2016 Annual Meeting of the DGN, Mannheim
 2016 *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 *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 *Psychologie und Gehirn*, Jena
 2012 Annual Meeting of the DGKN, Cologne
 2012 German Neurologists' Meeting, Wittenberg

Organization of conferences & workshops

- 2013 Congress Secretary: 5th International Conference on NIBS, Leipzig
 2012 Workshop *Transcranial brain stimulation techniques in Biological Psychology* (with Dr. T.O. Bergmann), Jena

Chaired symposia (n=14)

- 2022 Recent advances in NIBS (with T.O. Bergmann), PuG, Freiburg
 2022 Computational Models in Language and Communication, IMPRS NeuroCom summer school, Leipzig
 2021 Annual meeting of the DGKN, Frankfurt
 2019 Annual Meeting of the German Society for Neurorehabilitation, Leipzig

- 2019 IMPRS NeuroCom summerschool, MPI CBS, Leipzig
- 2018 Annual Meeting of the DGKN, Berlin
- 2018 Language and Communication, IMPRS NeuroCom Retreat, Berlin
- 2017 Annual Meeting of the DGN, Leipzig
- 2017 *Psychologie und Gehirn*, Trier
- 2017 Annual Meeting of the DGKN, Leipzig
- 2016 Modelling and Biophysics, 6th Int. Conference on TBS, Goettingen
- 2016 *Psychologie und Gehirn*, Berlin
- 2014 *Psychologie und Gehirn*, Lübeck
- 2014 Annual Meeting of the DGN, Munich

Further qualifications and committee memberships

- 2021 – Speaker, DGPs, Biological Psychology and Neuropsychology section
- 2019 – 2021 Treasurer, DGPs, Biological Psychology and Neuropsychology section
- 2021 – Mentor, female leadership, University of Magdeburg
- 2019 Mentor, TANDEMplusMED Program, RWTH Aachen
- 2018 Workshop: Female Leadership in Science, MPI CBS Leipzig
- 2018 Workshop & Coaching: Strategic Planning of Research Carriers, MPI CBS
- 2016 – Module Representative Language & Communication, IMPRS NeuroCom
- 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 member: promotion of young scientists, 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, Kiel University

Third-party funding

- 2023 – 2028 ERC Consolidator Grant: The Flexible Brain: (Re-)shaping Adaptation in Semantic Cognition. PI Hartwigsen: ~ € 2.000.000
- 2023 – 2026 DFG Research Unit: Modulation of brain networks for memory and learning by transcranial electrical stimulation. PI Hartwigsen: € 572.776
Role: PI, Speaker: Agnes Flöel
- 2022 – 2025 German Research Foundation (DFG): The impact of domain-general networks on natural language processing. PI Hartwigsen: € 356.150
PIs: G. Hartwigsen & J. Obleser
- 2021 – 2022 DFG: An Automated System for Localizing the Effects of Transcranial Magnetic Stimulation. PI Hartwigsen: ~ € 110.000
PIs: J. Haueisen, G. Hartwigsen & T. Knösche
- 2019 – 2023 Lise Meitner Research Group, Lise Meitner Excellence Program, Max Planck Society. PI Hartwigsen: ~ € 2.000.000
- 2018 NVIDIA GPU grant (Titan Xp Donation), NVIDIA Developer. PI Hartwigsen: € 1.350
- 2017 – 2021 DFG: Functional Segregation in the Default Mode Network. PI Hartwigsen: € 175.000. *PIs: D. Bzdok & G. Hartwigsen.*

- 2017 – 2021 DFG: Modulating neural network dynamics of speech comprehension. PI Hartwigsen: € 196.800. PIs: G. Hartwigsen & J. Obleser.
- 2011 – 2014 DFG: Neuromodulation of phonological word processing with multifocal parieto-frontal transcranial magnetic stimulation. PI Hartwigsen: € 165.000.
- 2011 Young Scientists program of the Medical Faculty Leipzig, starting grant for DFG projects. PI Hartwigsen: € 50.000.

Total funding as PI: € 5.627.076

As collaborator

- 2022 – 2024 DFG Walter Benjamin stipend: Uncovering the interaction of key regions within the prefrontal response inhibition network. *PI: Dr. Maximilian Friebs
Role: host & supervisor*
- 2021 – 2022 Humboldt research stipend: Exploring the neurobiology of reading in healthy and literacy-impaired adults with combined neurostimulation and neuroimaging. *PI: Dr. Sabrina Turker. Role: host & supervisor*
- 2019 – 2021 DFG: Uncertainty and Sensitivity Analysis of Coupled Systems Composed of an Electromagnetic Field Problem and a Dynamic Nonlinear Network Using Spectral Methods. *PI: Dr. Konstantin Weise. Role: collaborator*

Public and media

- 2022 Blog post *behind the paper*. “How to map the human brain (fast)?” Numssen et al. *Nature Protocols*, 05.12.2022
- 2021 „Warum fallen uns im Alter Wörter schlechter ein?“ *Leipziger Volkszeitung*, 11.09.2021
- 2021 Press release *The brain area with which we interpret the world*, MPI CBS
- 2021 Press release *How we retrieve our knowledge about the world*, MPI CBS
- 2021 Medizinreport: Innovative Aphasietherapie: Elektronischer Logopädieassistent gesucht. *Dtsch Arztebl* 2021; 118(18): A-940 / B-781.
- 2020 Press release *Language, the Unknown*, MPI CBS
- 2020 Press release *Stroke: when the system fails for the second time*, MPI CBS
- 2019 *Deep in the Brain*, *Süddeutsche Zeitung*, 24.08.2019
- 2019 PR *Take a break! brain stimulation improves motor learning*, MPI CBS
- 2018 Press release: *The brain’s backup: staying connected*, MPI CBS
- 2018 Press release *Gehirn unter Strom* (Student, October 2018)
- 2017 Press release *First aid in the brain: When language suddenly fails*, MPI CBS
- 2016 Detektor.fm *Das Netzwerk der Sprache*
- 2014 *Hoffnung für Schlaganfallpatienten* (Kieler Nachrichten, 07.01.2014)
- 2013 Portrait, *Unizeit magazine* (Kiel University), Nr. 78, 26.10.2013
- 2013 *Sprechen nach dem Schlaganfall*, “Unizeit” magazine (Kiel University)

Publication record

peer-reviewed articles: 102
 as first author: 27
 as senior author: 45
 h-Index: 32 (Google Scholar)
 impact factor: ~574 (cumulative 5-year Impact Factor)
 citations: ~4030 (Google Scholar)
 Google Scholar: <https://scholar.google.nl/citations?user=5YaFMKwAAAAJ&hl=de>
 ORCID: <https://orcid.org/0000-0002-8084-1330>

Peer-reviewed Articles**2022**

102. Ekhtiari H., Ghobadi-Azbari P., Thielscher A., ..., Hartwigsen G., ..., & Bikson, M. (2022). A Checklist for Assessing the Methodological Quality of Concurrent tES-fMRI Studies (ContES Checklist): A Consensus Study and Statement. *Nat Protocols* 17(3):596-617.
101. Farci C.*, Moliadze V.*, Nees F., Hartwigsen G.# & Guggisberg A.# (2022). Identifying neural targets for enhancing phonological processing with transcranial alternate current stimulation. *Brain Stimulation* 15(3):789-791.[*,# equal contribution]
100. Hartwigsen G. & Silvanto J. (2022). Non-invasive brain stimulation: multiple effects on cognition. *The Neuroscientist*. Jul 29:10738584221113806. Online ahead of print.
99. Heyrani, R., Nejati, V., Abbasi, S. & Hartwigsen, G. (2022). Laterality in emotional language processing in first and second language. *Frontiers in Psychology* 12:736359.
98. Kuhnke P., Beaupain M., Arola J., Kiefer M. & Hartwigsen G. (in press). Meta-analytic evidence for a novel hierarchical model of conceptual processing. *Neurosci Biobehav Rev.*
97. Kuhnke P., Chapman C., Cheung V.K.M., Turker S., Graessner A., Martin S., Williams K., & Hartwigsen G. (2022). The role of the angular gyrus in semantic cognition – A synthesis of five functional neuroimaging studies. *Brain Structure and Function* 2022 Apr 27. doi: 10.1007/s00429-022-02493-y.
96. Maran M., Numssen O., Hartwigsen G. & Zaccarella E. (in press). Online neurostimulation of Broca's area does not interfere with syntactic predictions: A combined TMS-EEG approach to basic linguistic computation. *Front Psychol.*
95. Martin S., Williams K., Saur D. & Hartwigsen G. (in press). Age-related reorganization of functional network architecture in semantic cognition. *Cereb Cortex.*
94. Martin S., Saur D. & Hartwigsen G. (2022a). Age-dependent contribution of domain-general network interactions to semantic cognition. *Cereb Cortex* 32(4):870-890.
93. Qu X., Wang Z., Cheng Y., Sue Q., Li Z., Li L., Feng L., Hartwigsen G.*, Chen L.* (in press). Neuromodulatory Effects of Transcranial Magnetic Stimulation on Language Performance in Healthy Participants: Systematic Review and Meta-Analysis. *Front Hum Neurosci.* (*shared senior authors).
92. Rampf S., Spindler K., Hartwigsen G., Scheller C., Simmermacher S., Scheer M., Strauss C., & Prell. J. (2022). Archery under the (EEG-)hood: Theta-lateralization as a marker for motor learning. *Neuroscience* 99:23-39.
91. Rysop A.U., Schmitt L.M., Obleser J., & Hartwigsen G. (2022). Age-related differences in the neural network interactions underlying the predictability gain. *Cortex* 154:269-256.
90. Tzvi E., Gajiyeva L., Bindel L., Hartwigsen G. & Classen J. (2022). Coherent theta oscillations in the cerebellum and supplementary motor area mediate visuomotor adaptation. *NeuroImage* 2022 May 1;251:118985.

89. van der Burght C.L., Numssen O., Schlaak B., Goucha T. & Hartwigsen G. (in press). Differential contributions of inferior frontal gyrus subregions to sentence processing guided by intonation. *Hum Brain Mapp.*
88. Ward E., Brownsett S.L.E., McMahon K.L., Hartwigsen G., Mascelloni M. & de Zubicaray G.I. (2022). Online transcranial magnetic stimulation reveals differential effects of transitivity in left inferior parietal cortex but not premotor cortex during action naming. *Neuropsychologia* 174:108339.
87. Wawrzyniak M., Schneider H., Klingbeil J., Stockert S., Hartwigsen G., Weiller C. & Saur D. (2022). Resolution of diaschisis contributes to early recovery from post-stroke aphasia. *NeuroImage* 2022 May 1;251:119001.
86. Werchowski M., Stenner T., Splittgerber M., Siniachtkin M., Nees F., Hartwigsen G.* & Moliadze V.* (2022). No effects of prefrontal multichannel tACS at individual alpha frequency on phonological decisions. *Clinical Neurophysiology* 142: 96-108 [shared senior authors].
85. Weise, K.*, Numssen, O.*, Kalloch B., Zier A., Thielscher A., Hartwigsen G.* & Knösche T.* (in press). A protocol for precise TMS motor-mapping. *Nature Protocols.* *[shared first / senior authors]
84. Williams, K., Numssen, O. & Hartwigsen G. (2022). Task-specific network interactions across key cognitive domains. *Cereb Cortex* 2022 Feb 14:bhab531.

2021

83. Bergmann T.O. & Hartwigsen G. (2021). Inferring causality from non-invasive brain stimulation in cognitive neuroscience. *J Cog Neurosci* 33(2), 195-225.
82. Chen L.*, Wu J.*, Hartwigsen G., Zhongshan L., Wang P. & Feng L. (2021). The role of a critical left fronto-temporal network with its right-hemispheric homologue in syntactic learning based on word category information. *J Neuroling* 58:100977. *[shared first authors].
81. Chien P.-J., Friederici A.D., Hartwigsen G.* & Sammler D.* (2021). Intonation processing increases task-specific fronto-temporal connectivity in tonal language speakers. *Hum Brain Mapp* 42(1):161-174. *[shared senior authors]
80. Friehs M., Frings C. & Hartwigsen G. (2021). Effects of single-session transcranial direct current stimulation on reactive response inhibition. *Neurosci Biobehav Rev* 128: 79-765.
79. Graessner A., Zaccarella E.* & Hartwigsen G.* (2021). Differential contributions of left-hemispheric language regions to basic semantic composition. *Brain Structure and Function* 226(2):501-518. *[shared senior authorship]
78. Graessner A., Zaccarella E., Friederici A.D., Obrig H.* & Hartwigsen G.* (2021). Dissociable contributions of frontal and temporal brain regions to basic semantic composition. *Brain Comms* 3(2):fcab090. *[shared senior authors]
77. Hartwigsen G., Bengio Y. & Bzdok D. (2021). How does Hemispheric Specialization contribute to Human-Defining Cognition? *Neuron* 109(13):2075-2090.
76. Hartwigsen G. & Volz L.J. (2021). Probing rapid network reorganization of motor and cognitive functions via neuromodulation and neuroimaging. *NeuroImage* 224:117449.
75. Kuhnke P., Kiefer M. & Hartwigsen G. (2021). Task-dependent effective connectivity during conceptual processing. *Cereb Cortex* 31(7):3475-3493.
74. Lonsdorf T.B., Hartwigsen G., Kübler A., Merz C., Schmidt B., Sperl M.F.J. & Feld, G.B. (2021). Mehr als nur fragwürdig: Reproduzierbarkeit und Open Science in der Lehre aus Sicht der Biologischen Psychologie und Neuropsychologie. *Commentary. Psych Rundschau* 1(73):30-33.

73. Mathias, B., Klingebiel, A., Hartwigsen, G., Sureth, L., Macedonia, M., Mayer, K., & von Kriegstein, K. (2021). Motor cortex causally contributes to vocabulary translation following sensorimotor-enriched training. **J Neurosci** 41(41):8618-8631.
72. Mathias B., Sureth L., Hartwigsen G., Macedonia M., Mayer K.M. & von Kriegstein K. (2021). Visual sensory cortices causally contribute to auditory word recognition following sensorimotor-enriched vocabulary training. **Cereb Cortex** 31(1): 513-528.
71. Moliadze V., Stenner T., Matern S. & Hartwigsen G (2021). Online effects of beta-tACS over the left prefrontal cortex on phonological decisions. **Neuroscience** 463:264-271.
70. Numssen, O., Zier, A.-L., Thielscher A., Hartwigsen, G., Knösche, T.R. & Weise, K. (2021). Efficient high-resolution TMS mapping of the human motor cortex by nonlinear regression. **NeuroImage** 245:118654.
69. Numssen O., Bzdok D.* & Hartwigsen G.* (2021). Functional specialization within the inferior parietal lobe across cognitive domains. **eLife** 10:e63591. *[equal contribution]
68. Rysop A.*, Schmitt L.M.*, Obleser J.# & Hartwigsen G#. (2021). Neural modelling of the semantic predictability gain under challenging listening conditions. **Hum Brain Mapp** 42(1):110-127. [*,# equal contribution].
67. Schmitt, L.-M., Erb J., Tune S., Rysop A., Hartwigsen G. & Obleser J. (2021). Predicting speech from a cortical hierarchy of event-based timescales. **Science Advances** 7(49):eabi6070.
66. Turker S., & Hartwigsen G. (2021). The use of non-invasive brain stimulation techniques to improve reading difficulties in dyslexia: a systematic review. **Hum Brain Mapp** 43(3):1157-1173.
65. Turker S., & Hartwigsen G. (2021). Exploring the neurobiology of reading and dyslexia through non-invasive brain stimulation. **Cortex** 141:497-521.
64. van der Burgth C., Friederici, A.D., Goucha T.# & Hartwigsen G.# (2021). Pitch accents create dissociable syntactic and semantic expectations during sentence processing. **Cognition** 212:104702. [shared senior authors]

2020

63. Bikson M., Hanlon C., Woods A., ..., Hartwigsen G., ... & Ekhtiari H. (2020). Guidelines for TMS/tES Clinical Services and Research through the COVID-19 Pandemic. **Brain Stimulation** 13(4), 1124-1149.
62. Chien P.-J., Friederici A.D., Hartwigsen G.* & Sammler D.* (2020). Neural correlates of intonation and lexical tone in tonal and non-tonal language speakers. **Hum Brain Mapp** 41(7):1842-1858. *[shared senior authors]
61. Friehs M., Klaus J., Sigh T., Frings C. & Hartwigsen G. (2020). Perturbation of the right prefrontal cortex disrupts interference control. **NeuroImage** 222:117279.
60. Hartwigsen G., Röder B., Lischke A., Kübler A. & Pauli P. (2020). Neurobiologische Grundlagen von Entwicklung und Lernen über die Lebensspanne. Kommentar zu Daum et al. Positionspapier der Fachgruppe Entwicklungspsychologie. **Commentary. Psych Rundschau** 71(1):24-46.
59. Hartwigsen G., Stockert A., Charpentier L., Wawrzyniak M., Klingbeil J., Wrede K., Obrig H. & Saur D. (2020). Short-term modulation of the lesioned language network. **eLife** 2020;9:e54277.
58. Ishkhanyan B., Lange V.M. Boye K., Mogensen J., Karabanov A., Hartwigsen G.* & Siebner H.R.* (2020). Anterior and posterior left inferior frontal gyrus contribute to the implementation of grammatical determiners during language production. **Front Psychol** 11:685 *[shared senior authors]

57. Klaus J. & Hartwigsen G. (2020). Improving verbal fluency with transcranial direct current stimulation. *Neuroscience* 449:123-133.
56. Kuhnke P., Beaupain M.C., Cheung V.K.M., Weise K., Kiefer M., & Hartwigsen G. (2020). Left posterior inferior parietal cortex causally supports the retrieval of action knowledge. *NeuroImage* 2020 219:117041.
55. Kuhnke P., Kiefer M., & Hartwigsen G. (2020). Task-dependent recruitment of modality-specific and multimodal regions during conceptual processing. *Cereb Cortex* 30(7):3938-3959.
54. Mathias B., Andrä C., Mayer K.M., Sureth L., Klingebiel A., Hartwigsen G., Macedonia M., von Kriegstein, K. (2020). How can we learn foreign language vocabulary more easily? *Frontiers for Young Minds* 8:89.
53. Piai V., Nieberlein L. & Hartwigsen G. (2020). Effects of transcranial magnetic stimulation over the left posterior superior temporal gyrus on picture-word interference. *PLoS One* 15(11):e0242941.
52. Rumpf J.-J., May L., Fricke C., Classen J. & Hartwigsen G. (2020). Interleaving motor sequence training with high-frequency rTMS facilitates consolidation. *Cereb Cortex* 30(3):1030-1039.
51. Stockert A., Wawrzyniak M., Klingebiel J., Wrede K., Kuemmerer D., Hartwigsen G., Kaller C.P., Weiller C. & Saur D. (2020). Dynamics of language reorganisation after left temporoparietal and frontal stroke. *Brain* 143(3):844-861.
50. Weise K.*, Numssen O.*, Thielscher A., Hartwigsen G.# & Knoesche T.R.# (2020). A novel approach to localize cortical TMS effects. *NeuroImage* 209:116486. [*,# equal contribution].

2019

49. Hartwigsen, G.*, Neef, N.E*., Camilleri J., Margulies, D., & Eickhoff, S.B. (2019). Functional segregation of the right inferior frontal gyrus: Evidence from coactivation-based parcellation. *Cereb Cortex* 29(4): 1532-1546. *[shared first authors]
48. Hartwigsen G. & Saur D. (2019). Neuroimaging of stroke recovery from aphasia - Insights into plasticity of the human language network. *NeuroImage* 190:14-31.
47. Klaus J. & Hartwigsen G. (2019). Dissociating semantic and phonological contributions of the left inferior frontal gyrus to language production. *Hum Brain Mapping* 40(11):3279-3287.
46. Kroczeck L.O.H., Gunter T.C., Rysop A.U., Friederici A.D. & Hartwigsen G. (2019). Contributions of left frontal and temporal cortex to sentence comprehension: Evidence from simultaneous TMS-EEG. *Cortex* 115:86-98.
45. Moliadze V., Sierau L., Lyzhko E., Stenner T., Werchowski M., Siniatchkin M. & Hartwigsen G. (2019). After-effects of 10 Hz tACS over the prefrontal cortex on phonological word decisions. *Brain Stimulation* 12(6):1464-1471.
44. van der Burght C.*, Goucha T.*, Friederici A.D., Kreitewolf J.# & Hartwigsen G.# (2019). Intonation guides sentence processing in the left inferior frontal gyrus. *Cortex* 117:122-134 [*,# equal contribution]

2018

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Selected posters (n > 120, as first author: 14, as senior author > 80)

e.g. Academy of Aphasia, Society for the Neurobiology of Language (SNL), Organization for Federation of European Neuroscience Societies (FENS), Organization for Human Brain Mapping (OHBM), Brain Stimulation Conference, Society for Neuroscience (SfN), Psychologie und Gehirn, Deutsche Gesellschaft für Klinische Neurophysiologie und Funktionelle Bildgebung (DGKN)