

Yifei He, Dr. phil., M. Sc.

Birth: 1984 in Wuhan, China
Nationality: Chinese
Family status: Married, two children (07. 2014/07. 2021)
Affiliation: Translational Neuroimaging Lab, Department of Psychiatry and Psychotherapy, School of Medicine, Philipps University Marburg
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Education

2010 – 2016 Dr. phil. in Linguistics, Johannes Gutenberg University Mainz, Germany
- thesis title: *Interactive processing within and beyond sentence-level: An ERP investigation of simple and complex Chinese sentences*
- summa cum laude; supervisor: Prof. Dr. Matthias Schlesewsky

2007 – 2009 M. Sc. in Clinical Linguistics, European Master in Clinical Linguistics (EMCL):
University of Milano-Bicocca, Italy || University of Groningen, the Netherlands ||
University of Potsdam, Germany
- thesis title: *Semantics, syntax, and distance: An ERP study on Chinese classifiers*
- excellent (A); supervisor: Dr. Laurie Stowe

2002 – 2006 B. A. in English linguistics and literature, Renmin University of China, China

Research positions

2016 – present Post-doc (Wissenschaftlicher Mitarbeiter), Translational Neuroimaging Lab, Department of Psychiatry and Psychotherapy, Philipps University Marburg, Germany; advisor: Prof. Dr. Benjamin Straube

2021 – 2022 Parental leave (full-time, 12 months, 10. 2021 – 10. 2022)

2015 Parental leave (full-time, 3 months, 03. 2015 – 05. 2015)

2012 – 2016 Pre-doctoral researcher (Wissenschaftlicher Mitarbeiter), Department of Psychiatry and Psychotherapy, Philipps University Marburg, Germany; advisor: Prof. Dr. Benjamin Straube

2010 – 2012 Doctoral student (Stipendiat), Department of Linguistics, Johannes Gutenberg University Mainz, Germany; supervisor: Prof. Dr. Matthias Schlesewsky

Research grants

2024 – 2027 DFG-funded Individual Research Grant: *The predictive coding account of schizophrenia: Dysfunctional interaction across linguistic levels* (HE8029/5-1). Volume (own-share): €227, 000, PI: **Dr. Yifei He**, Dr. Lars Meyer

2021 – 2023 Cooperation Research Project funded by University Hospital Giessen Marburg (UKGM): *The role of N-methyl-D-aspartate glutamate receptor (NMDAR) during sensory and semantic prediction in schizophrenia: a cross-sectional EEG investigation on brain oscillations*. Volume: €116, 000, PI: **Dr. Yifei He**, Co-PI: Prof. Dr. Arne Nagels, Prof. Dr. Christoph Mulert

- 2020 – 2022 DFG-funded Individual Research Grant: *Multistage-integration during co-speech gesture integration: a systematic investigation combining EEG and fMRI* (HE8029/2-1). Volume: €250, 000, PI: **Dr. Yifei He**, Co-PI: Prof. Dr. Benjamin Straube
- 2020 – 2022 Cooperation Research Project funded by University Hospital Giessen Marburg (UKGM): *Developing and investigating the neurobiological basis for social-cognitive intervention programme for patients with schizophrenia*. Volume: €104, 000, PI: Dr. Florian Bitsch, Co-PI: **Dr. Yifei He**, Prof. Dr. Benjamin Straube

Summary: Publications

Preprints or manuscripts submitted: 2 (2 senior authorship)
 Peer-reviewed journal articles: 20 (8 first authorship, 6 senior authorship)
 Citations: 396
 H-Index: 11
 H10-Index: 13
 Talks: 18 (1 keynote, 9 invited)

Preprints or manuscripts submitted & under revision in peer-reviewed journals

- preprint Ody, E., Kircher, T., Straube, B. *, & **He, Y.*** (2023). Differential effects of self-initiated, externally triggered, and passive movements on action-outcome processing: Insights from sensory and motor-preparatory ERPs. OSF preprint. (* shared senior authorship).
- preprint Sommer, J., Hansen-Schirra, S., Nagels, A., & **He, Y.** (2021). Processing linguistic negation with and without truth-value evaluation: Evidence from N400 and theta oscillations. *PsyArXiv*.

Peer-reviewed publications

- 2024 Osorio, S., Straube, B., Meyer, L. *, & **He, Y.*** (2024). The role of co-speech gestures in retrieval and prediction during naturalistic multimodal narrative processing. *Language, Cognition, and Neuroscience*. (* shared senior authorship).
- 2024 **He, Y.**, Sommer, J., Hansen-Schirra, S., & Nagels, A. (2024). Multivariate pattern analysis of EEG reveals nuanced impact of negation on sentence processing in the N400 and later time windows. *Psychophysiology*, e14491.
- 2023 Ody, E., Kircher, T., Straube, B. *, & **He, Y.*** (2023). Pre-movement event-related potentials and multivariate pattern of EEG encode action outcome prediction. *Human Brain Mapping*. (* shared senior authorship).
- 2023 Ody, E. **He, Y.***, Straube, B. *, & Kircher, T*. (2023). Perception of self- and externally-generated visual stimuli: Evidence from EEG and behaviour. *Psychophysiology*. (* shared senior authorship).
- 2022 Yue, J., Wang, P., Li, J., Li, Z., Liang, X., & **He, Y.** (2022). Short-Term Habituation of Auditory N1 in Spoken Word-Forms Is Modulated by Phonological Information. *Brain Sciences*, 12(10), 1279.
- 2022 Wang, P., **He, Y.**, Maess, B., Yue, J., Chen, L., Brauer, J., ... & Knösche, T. R. (2022). Alpha power during task performance predicts individual language comprehension. *Neuroimage*, 260, 119449-119449.

- 2022 Cuevas, P.*, **He, Y.***, Steines, M., & Straube, B. (2022). The Processing of Semantic Complexity and Co-speech Gestures in Schizophrenia: A Naturalistic, Multimodal fMRI Study. *Schizophrenia Bulletin Open*, 3(1). (* shared first authorship).
- 2021 Meyer, L., Lakatos, P., & **He, Y.** (2021). Language Dysfunction in Schizophrenia: Assessing Neural Tracking to Characterize the Underlying Disorder (s)? *Frontiers in Neuroscience*, 15, 163.
- 2021 **He, Y.**, Steines, M., Sammer, G., Nagels, A., Kircher, T., & Straube, B. (2021). Modality-specific dysfunctional neural processing of social and non-social information in schizophrenia. *Neuroimage Clinical*, 29, 102568.
- 2021 Cuevas, P., **He, Y.**, Billino, J., Kozasa, E., & Straube, B. (2021). Age-related effects on the neural processing of semantic complexity in a continuous narrative: Modulation by gestures already present in young to mid-aged adults. *Neuropsychologia*, 151, 107725.
- 2020 **He, Y.**, Luell, S., Muralikrishnan, R., Straube, B., & Nagels, A. (2020). Gesture's body orientation modulates the N400 for visual sentences primed by gestures. *Human Brain Mapping*, 41(17), 4901-4911.
- 2020 Wroblewski, A., **He, Y.**, & Straube, B. (2020). Dynamic Causal Modelling suggests impaired effective connectivity in patients with schizophrenia spectrum disorders during gesture-speech integration. *Schizophrenia Research*, 216, 175-283.
- 2020 Hou, J., **He, Y.**, Zhao, X., Thai, J., Fan, M., Feng, Y., & Huang, L. (2020). The effects of job satisfaction and psychological resilience on job performance among residents of the Standardized Residency Training: a nationwide study in China. *Psychology, Health & Medicine*. 1-13.
- 2019 Cuevas, P., Steines, M., **He, Y.**, Nagels, A., Culham, J., & Straube, B. (2019). The facilitative effect of gestures on the neural processing of semantic complexity in a continuous narrative. *Neuroimage*, 195, 38-47.
- 2018 Straube, B., Wroblewski, A., Jansen, A., **He, Y.** (2018). The connectivity signature of co-speech gesture integration: the superior temporal sulcus modulates connectivity between areas related to visual gesture and auditory speech processing. *Neuroimage*, 181, 539-549.
- 2018 **He, Y.**, Nagels, A., Schlesewsky, M., & Straube, B. (2018). The role of gamma oscillations during integration of metaphoric gestures and abstract speech. *Frontiers in Psychology*, 9, 1348.
- 2018 **He, Y.**, Steines, M., Gebhardt, H., Sammer, G., Kircher, T., Nagels, A., & Straube, B. (2018). Spatial-temporal dynamics of gesture-speech integration: a simultaneous EEG-fMRI study. *Brain Structure and Function*, 223(7), 3073-3089.
- 2018 **He, Y.**, Steines, M., Sammer, G., Nagels, A., Kircher, T., & Straube, B. (2018). Action-related speech modulates beta oscillations during observation of tool-use gestures. *Brain Topography*, 31, 8, 838-847.
- 2015 **He, Y.**, Gebhardt, H., Steines, M., Sammer, G., Kircher, T., Nagels, A., & Straube, B. (2015). The spatial and temporal signatures of neural integration: an fMRI and EEG investigation of meaningful gestures and corresponding speech. *Neuropsychologia*, 72, 27-42.
- 2013 Straube, B., **He, Y.**, Steines, M., Gebhardt, H., Kircher, T., Sammer, G., & Nagels, A. (2013). Supramodal neural processing of abstract information conveyed by speech and gesture. *Frontiers in Behavioral Neuroscience*, 7, 120.

Talks (invited)

- 2023 *The effect of co-speech gestures on speech perception and language comprehension (Virtual talk)*

- ISGS-HongKong, Hong Kong Polytechnic University, Hong Kong, China
- 2023 *Keynote talk, Processing co-speech gestures: a neural perspective, Gesture and Speech in Interaction (GESPIN2023)*
 - Max Planck Institute for Psycholinguistics / Donders Institute/ Radboud University, Nijmegen, the Netherlands
- 2021 *Investigating multimodal language processing with multimodal neuroimaging methods (Virtual talk)*
 - Max Planck Institute for Psycholinguistics, Nijmegen, the Netherlands
- 2021 *How gesture integrates and interacts with speech during online comprehension (Virtual talk)*
 - Center for Language Evolution, The University of Edinburgh
- 2019 *Exploring gesture-speech interaction using multimodal neuroscientific methods: a translational perspective*
 - Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 2019 *Investigating gesture-speech interaction using multimodal neuroscientific methods*
 - Johannes Gutenberg University Mainz, Mainz, Germany
- 2018 *Gesture-speech interaction in time, frequency, and space*
 - Albert-Einstein Hospital, São Paulo, Brazil
- 2018 *Unveiling the brain dynamics of gesture-speech interaction using EEG, fMRI, simultaneous EEG-fMRI, and tDCS*
 - Zhejiang University of Technology, Hangzhou, China
- 2018 *Investigating human cognitive functions and dysfunctions with neuroscientific methods*
 - Harbin Institute of Technology, Harbin, China
- 2017 *Hand gestures alert auditory cortices to process foreign language*
 - Johannes Gutenberg University Mainz, Mainz, Germany

Talks (other: first/senior author)

- 2022 *Temporal generalization reveals a close relationship between the preparation of self-induced action and the perception of its sensory outcome*
 - Conference of the European Society for Cognitive Psychology (ESCOP), Porto, Portugal
- 2022 *Perception of self- and externally-generated visual stimuli: Evidence from EEG and behaviour (first author: Edward Ody)*
 - Conference of the European Society for Cognitive Psychology (ESCOP), Lille, France
- 2020 *Polarity effects in negated sentences with and without truth value reversal: Evidence from N400 and theta oscillations (first author: Johanna Sommer)*
 - ‘The Processing of Negation and Polarity’ workshop, Berlin, Germany
- 2018 *Gamma band oscillations mediate comprehension of metaphoric co-speech gestures*
 - The Conference of Experimental Psychologists (TEAP), Marburg, Germany
- 2016 *Gesture-speech integration in time and space: a combined EEG-fMRI study*
 - International Society of Gesture Studies (ISGS), Paris, France
- 2014 *Subject relative clause preference in Chinese: processing relative clause with two gaps*
 - Annual meeting of the German Linguistic Society (DGfS), Marburg, Germany

- 2013 *The missing power: Language mediates sensorimotor-related beta oscillations during online comprehension of different types of co-speech gestures*
 – Tilburg Gesture Research Meeting (TiGER), Tilburg, the Netherlands
- 2011 *Prominence beyond sentence: an ERP study of ‘pro-drop’ constructions in Chinese*
 – Workshop of Experimental Pragmatics, Mainz, Germany

Posters (first author/presenter)

2024: Psychologie und Gehirn (PUG), Hamburg, Germany; **2019:** Ling-Cologne Multimodal Language, Cologne, Germany; **2014:** International Society of Gesture Studies (ISGS), San Diego, USA; The Conference of Experimental Psychologists (TEAP), Giessen, Germany; **2013:** Architectures and Mechanisms for Language Processing (AMLaP), Marseille, France; Robert Sommer Award Symposium (RSA), Giessen, Germany; **2011:** Neurobiology of Language (SNL), Annapolis, USA

Posters (co-author/senior author)

2024: Psychologie und Gehirn (PUG), Hamburg, Germany; **2023:** Conference of the European Society for Cognitive Psychology (ESCOP), Porto, Germany; **2022:** Centre for Vision Research Conference, York, Canada; **2022:** New Sounds 2022 (2022), Barcelona, Spain **2022:** Speech Prosody 2022 (2022), Lisbon, Portugal; **2019:** International Conference on Education, Economics and Management Research (ICEEMR), Singapore; **2017:** Organization for Human Brain Mapping (OHBM), Vancouver, Canada; **2016:** Robert Sommer Award Symposium (RSA), Giessen, Germany (n = 2); **2010:** Organization for Human Brain Mapping (OHBM), Barcelona, Spain; **2009:** Formal vs. Processing Explanations of Processing Phenomena Conference, York, UK

Fellowships and awards

- 2019 Best Poster Award, Ling-Cologne 2019 Conference in Multimodal Language (€500)
- 2010 Pro Geistes- und Sozialwissenschaften Stipendium, Johannes Gutenberg University Mainz (€30, 000)
- 2007 Erasmus Mundus Master’s Scholarship, the European Union (€24, 000)

Editorial service

Frontiers in Human Neuroscience: Review Editor (from 2020)
 Cognitive Processing: Handling Editor (from 2020)
 Frontiers in Language Sciences: Review Editor (from 2023)

Ad hoc review

Cerebral Cortex; Developmental Psychobiology; Language, Cognition and Neuroscience; Neuropsychologia; Neuroimage Clinical; Frontiers in Psychology; Journal of Neuroscience; IEEE Transactions on Neural Systems & Rehabilitation Engineering; Cognitive Processing; Neuroimage; Brain Research; European Archives of Psychiatry and Clinical Neuroscience; Human Brain Mapping; Biological Psychology; Psychological Medicine; Frontiers in Human Neuroscience; Pragmatics and Cognition; Journal of Clinical Medicine; Brain Sciences; Journal of Integrative Neuroscience; Brain and Language; iScience; Brain and Behavior; Oxford Research Encyclopedia of Neuroscience; Behavioral and Brain Functions; Journal of Experimental Psychology: Human Perception and Performance; Advanced Sciences; Psychophysiology; IEEE

Transactions of Biomedical and Health Informatics; Frontiers in Psychiatry; PLOS Biology; Language and Speech