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

Principal Investigator of third-party funded projects & Postdoctoral Researcher | Translational Neuroimaging Lab, Department of Psychiatry and Psychotherapy, Philipps University Marburg

Department of Psychiatry and Psychotherapy
School of Medicine
Philipps University Marburg
Rudolf-Bultmann-Str. 8, 35039 Marburg, Germany

Email: yifei.he@staff.uni-marburg.de
Website: www.yifeihe.com
ORCID: 0000-0002-2826-4230

EDUCATION

2010 – 2016 **Dr. phil. in Linguistics, Johannes Gutenberg University Mainz, Germany**
Thesis: 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: 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**

ACADEMIC APPOINTMENTS

2016 – present **Principal Investigator of third-party funded projects & Postdoctoral Researcher (Wissenschaftlicher Mitarbeiter), Translational Neuroimaging Lab, Department of Psychiatry and Psychotherapy, Philipps University Marburg, Germany**

2012 – 2016 **Pre-doctoral researcher (Wissenschaftlicher Mitarbeiter), Department of Psychiatry and Psychotherapy, Philipps University Marburg, Germany**

2010 – 2012 **Doctoral student (Stipendiat), Department of Linguistics, Johannes Gutenberg University Mainz, Germany**

CAREER BREAKS

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

2015 **Parental leave (full-time, 2 months, 04/2015 – 05/2015)**

RESEARCH FUNDING

Competitive research funding secured: €703,000 as PI and €113,800 as co-PI.

External / third-party funding

2025 – 2027 **Research Project funded by the von Behring-Röntgen-Stiftung: Dysfunctional efference copy mechanisms in schizophrenia: investigating effects on behaviour and neural mechanisms across space and time (72_0003)**
Volume: €100,000 | PI: **Dr. Yifei He** with Prof. Dr. Bianca van Kemenade (Giessen)

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** with Dr. Lars Meyer (MPI CBS Leipzig / University of Münster)

2019 – 2024 **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

Intramural funding

2025 – 2027 **Intramural Research Project 'DigiStrucMed' funded by Hannover Medical School: Can the machine detect information we cannot? Developing an algorithm that can diagnose patients with functional tic-like movement disorder using machine learning**
Volume: €9,800 | PI: Prof. Dr. Kirsten Müller-Vahl, Prof. Dr. Lars Schmidt-Thieme | Co-PIs: Dr. Simon Schmidt, Johannes Burchert, **Dr. Yifei He**

2024 – 2026 **Mini-Grant funded by LOEWE (DYNAMIC): Use of NLP Models to Analyze Linguistic Patterns and Their Relationship to Depression: A Longitudinal Investigation of Symptom Trajectories**
Volume: €10,000 | PIs: Katrin Leinweber, Dr. Frederike Stein, **Dr. Yifei He**

2024 – 2026 **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-PIs: Prof. Dr. Arne Nagels (Mainz), Prof. Dr. Christoph Mulert (Giessen)

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-PIs: **Dr. Yifei He**, Prof. Dr. Benjamin Straube

PUBLICATIONS

Summary:

27 peer-reviewed journal articles (8 first authorship, 10 senior authorship)

9 preprints or manuscripts submitted/under revision (8 senior authorship)

Preprints or manuscripts submitted / under revision

Xue, Q., Liu, Y., Yuan, M., Zhang, Z., Kircher, T., Chen, L.*, & **He, Y.*** (submitted). Subject preference as a flexible interpretive heuristic in thematic role assignment. PsyArXiv. (* shared senior authorship).

Liu, Y., Kircher, T., Chen, L., **He, Y.***, & Straube, B.* (2026). Two sides of the same coin in memory: Speech and its accompanying gesture are remembered together. PsyArXiv. doi:10.31234/osf.io/mydre_v1 (* shared senior authorship).

Chen, L., Yang, G., Qu, X., Li, D., Zhao, C., Wu, J., Zeng, K., **He, Y.***, Hartwigsen, G.*, Chen, R.*, & Friederici, A. D.* (2026). Transcranial Ultrasound Stimulation Unravels the Causal Role of the Left Inferior Frontal Gyrus in Syntactic Processing. Research Square rs-8717654. (* shared senior authorship).

Tumanyants, A., Straube, B., Mulert, C., & **He, Y.** (2026). Local predictive context modulates evidence accumulation and boundary separation during semantic priming. PsyArXiv.

Liu, Y., Kircher, T., Chen, L., **He, Y.***, & Straube, B.* (2026). The impact of co-speech gesture on sentence memory and metacognitive confidence. PsyArXiv. (* shared senior authorship).

Leinweber, K., **He, Y.**, Büchsenschütz, K., Hofmann, S. G., Kircher, T., & Straube, B. (2025). The relationship between self-reported gesture use and neuropsychological functioning in a transdiagnostic sample of patients with mental disorders. SSRN 5352659.

Huang, J., Straube, B., & **He, Y.** (2025). Dissecting the hierarchy of gesture comprehension: Evidence from a multilevel priming paradigm and drift-diffusion model. PsyArXiv.

Ody, E., Kircher, T., Straube, B.*, & **He, Y.*** (2024). Voluntary action sharpens sensory prediction and facilitates neural processing of contingent sensory stimuli. bioRxiv. (* shared senior authorship).

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 conference papers

He, Y., Ody, E., Kircher, T., & Straube, B. (2026). Efference copy as precision weighting explains predictive sharpening and perceptual attenuation in action-effect prediction. Conference on Cognitive Computational Neuroscience (CCN) 2026, extended abstract. OpenReview: openreview.net/forum?id=ZefF9s2xRr

Peer-reviewed journal articles

27. Huang, J., Tan, R., Feng, R., Straube, B., Zhang, S., & **He, Y.** (2026). How social exclusion shapes intertemporal choice: self-control resources as the central bridge. Personality and Individual Differences, 266, 114153.
26. Leinweber, K., **He, Y.**, Kircher, T., & Straube, B. (2026). Dysfunctional neural processing of object-related speech with semantically unrelated vs related co-verbal gesture in schizophrenia spectrum disorders. Neuropsychologia, 233, 109586.
25. Trujillo, J., Straube, B., & **He, Y.** (2026). Discourse context and co-speech gestures jointly shape hierarchical prediction during the processing of a multimodal narrative. Neurobiology of Language, 7, NOL.a.276.
24. Ody, E., Kircher, T., **He, Y.***, & Straube, B.* (2025). Differential effects of self-initiated, externally triggered, and passive movements on action-outcome processing: Insights from sensory and motor-preparatory ERPs. European Journal of Neuroscience, 62(5), e70236. (* shared senior authorship)
23. Huang, J., Feng, R., Straube, B., He, Q., Zhang, S., & **He, Y.** (2025). Transcranial direct current stimulation alleviates the negative impact of immediate and chronic social exclusion on intertemporal decision-making. Social Cognitive and Affective Neuroscience, 20(1), nsaf065.
22. Wei, H., **He, Y.**, Kauschke, C., Scharinger, M., & Domahs, U. (2025). L2-categorisation of linguistic and emotional prosody in German: an EEG study. Language, Cognition and Neuroscience, 40(9), 1262–1279.
21. Hermann, A., Benke, C., Blecker, C. R., de Haas, B., **He, Y.**, Hofmann, S. G., ... & Kirchner, L. (2024). Study protocol TransTAM: Transdiagnostic research into emotional disorders and cognitive-behavioral therapy of the adaptive mind. BMC Psychiatry, 24(1), 657.
20. 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, 39(3), 367–382. (* shared senior authorship)
19. **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, 61(4), e14491.
18. 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, 44(17), 6198–6213. (* shared senior authorship)
17. Ody, E., Straube, B.*, **He, Y.***, & Kircher, T.* (2023). Perception of self-generated and externally-generated visual stimuli: Evidence from EEG and behavior. Psychophysiology, 60(8), e14295. (* shared senior authorship)
16. 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.
15. 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.
14. 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), sgac026. (* shared first authorship)
13. Meyer, L., Lakatos, P., & **He, Y.** (2021). Language dysfunction in schizophrenia: Assessing neural tracking to characterize the underlying disorder(s)? Frontiers in Neuroscience, 15, 640502.
12. **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.
11. 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.
10. **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.
9. 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, 175–183.
8. 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, 25(9), 1106–1118.

7. 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.
6. 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.
5. **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.
4. **He, Y.**, Steines, M., Sommer, J., Gebhardt, H., Nagels, A., Sammer, G., Kircher, T., & Straube, B. (2018). Spatial-temporal dynamics of gesture–speech integration: A simultaneous EEG–fMRI study. Brain Structure and Function, 223(7), 3073–3089.
3. **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(5), 838–847.
2. **He, Y.**, Gebhardt, H., Steines, M., Sammer, G., Kircher, T., Nagels, A., & Straube, B. (2015). The EEG and fMRI signatures of neural integration: An investigation of meaningful gestures and corresponding speech. Neuropsychologia, 72, 27–42.
1. 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.

ACADEMIC PRESENTATIONS

Summary:

1 Keynote talk

12 Invited talks

Keynote talk

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

Invited talks

2025 **How action leads to perceptual preference**
East China Normal University & New York University Shanghai, Shanghai, China

2025 **Processing Multimodal Language**
Hong Kong Polytechnic University, Hong Kong, China

2025 **Understanding the processing of multimodal language from a neural–behavioral perspective**
Chinese University of Hong Kong, Hong Kong, China

2023 **The effect of co-speech gestures on speech perception and language comprehension (virtual talk)**
ISGS-Hong Kong, Hong Kong Polytechnic University, Hong Kong, China

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)**
Centre for Language Evolution, The University of Edinburgh, Edinburgh, UK

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

Other talks (first/senior author)

2025 **Discourse Context and Co-Speech Gestures Jointly Modulate Neural Language Processing**
International Society of Gesture Studies (ISGS), Nijmegen, the Netherlands

2025 **Motor prediction sharpens early visual representations, independent of prior expectations (first author: Edward Ody)**
Psychologie und Gehirn (PUG), Würzburg, Germany

2023 **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-generated and externally-generated visual stimuli: Evidence from EEG and behavior (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 clauses 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)

2025: Psychologie und Gehirn (PUG), Würzburg, Germany; 2024: Cognitive Science Society meeting (CSS), Rotterdam, the Netherlands; 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)

2026: Neurobiology of Language (SNL), Geneva, Switzerland; 2026: Cognitive Science Society meeting (CSS), Rio de Janeiro, Brazil; 2026: Psychologie und Gehirn (PUG), Heidelberg, Germany (n = 6); 2025: Neurobiology of Language (SNL), Washington DC, USA; 2025: International Society of Gesture Studies (ISGS), Nijmegen, the Netherlands; 2025: Cognitive Neuroscience Society Annual Meeting (CNS), Boston, USA; 2024: Psychologie und Gehirn (PUG), Hamburg, Germany; 2023: Conference of the European Society for Cognitive Psychology (ESCOP), Porto, Portugal; 2022: Centre for Vision Research Conference, York, Canada; 2022: New Sounds 2022, Barcelona, Spain; 2022: Speech Prosody 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, European Union** €24,000

EDITORIAL AND REVIEW SERVICE

Editorial roles

Frontiers in Language Sciences: Review Editor (from 2023)

Cognitive Processing: Handling Editor (from 2020)

Frontiers in Human Neuroscience: Review Editor (from 2020)

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 Science; Psychophysiology; IEEE Transactions of Biomedical and Health Informatics; Frontiers in Psychiatry; PLOS Biology; Language and Speech; Frontiers in Developmental Psychology; Journal of Cognitive Neuroscience; Behavioral Brain Research; Neuroscience Letters; Language and Cognition; Acta Psychologica; Neuroscience; PLOS ONE; Psychological Research; Annals of the New York Academy of Sciences; Developmental Science; NeuroImage: Reports; Frontiers in Language Science; Scientific Reports; Journal of Memory and Language; Autism & Developmental Language Impairments; Cognitive Science; Quarterly Journal of Experimental Psychology; Cognition and Emotion; European Journal of Neuroscience; Language Learning.