Sebastian Speer

Postdoctoral Researcher in Social Neuroscience
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EDUCATION & EMPLOYMENT

Princeton University	**Princeton, U.S.A.**
Postdoctoral Researcher	Aug 2022 – present
Netherlands Institute for Neuroscience	**Amsterdam, Netherlands**
Postdoctoral Researcher	Sep 2021 – Aug2022
Erasmus Centre for Neuroeconomics, Erasmus University	**Rotterdam, Netherlands**
PhD cum laude	Sep 2016 – Sep 2021
University of Melbourne	**Melbourne, Australia**
Research assistant at the Decision Neuroscience lab	October 2015 – Sep 2016
University of Amsterdam	**Amsterdam, Netherlands**
Research assistant at Spinoza Centre of Neuroimaging	Jan 2015 – Aug 2015
University of Amsterdam	**Amsterdam, Netherlands**
Master's degree in Cognitive Neuroscience cum laude	Sep 2014 – Jul 2016
Queen´s University	**Kingston, Canada**
Exchange Semester	Sep 2013 – Dec 2013
Rijksuniversiteit Groningen	**Groningen, Netherlands**
Degree of Bachelor of Science, Major: Psychology cum laude	Sep 2011– Jul 2014

PUBLICATONS

Speer, S., Sened, H., Mwilambwe-Tshilobo, Falk, E.B., L., Tsoi, L., Burns, S., Tamir, D.I. Finding Agreement: fMRI-hyperscanning reveals that dyads diverge in mental state space to align opinions. *Second round revision at the Journal of Personality and Social Psychology. Preprint: https://doi.org/10.1101/2024.10.03.616501*

Speer, S., Burns, S., Falk, E. B., Mwilambwe-Tshilobo, L., Tsoi, L., & Tamir, D.I. (*in print*). From Words to Bonds: The Science of Meaningful Conversations. In A. Fishbach, N. Liberman & F. Kentaro (Eds.), The Psychological Quest of Meaning.

Burns, S., Tsoi, L., Falk, E.B, **Speer, S.,** Mwilambwe-Tshilobo, L., Tamir, D.I. (*2025*). Interdependent minds: Quantifying the dynamics of successful social interaction. *Current Directions in Psychological Science.*

Shalvi, S., … **Speer, S.,** et al. (2025). The Science of Honesty: A framework and research agenda for the coming years. *Advances in Experimental Social Psychology, 72,* 241-327.

Speer, S., Mwilambwe-Tshilobo, L., Tsoi, L., Burns, S., Falk, E. B., & Tamir, D.I. (*2024*). What makes a good conversation? fMRI-hyperscanning shows friends explore and strangers converge. *Nature Communications. 15,* 7781.

Speer, S., Keysers, C., Barrios, J. C., Teurlings, C. J., Smidts, A., Boksem, M. A., ... & Gazzola, V. (2023). A multivariate brain signature for reward. *NeuroImage, 271,* 119990.

Speer, S., Martinovici, A., Smidts, A., & Boksem, M. A. (2023). The acute effects of stress on dishonesty are moderated by individual differences in moral default. *Scientific Reports, 13*(1), 3984.

Fornari, L., Ioumpa, K., Nostro, A. D., Evans, N. J., De Angelis, L., **Speer, S.,** ... & Gazzola, V. (2023). Neuro-computational mechanisms and individual biases in action-outcome learning under moral conflict. *Nature Communications, 14*(1), 1218.

Zhang, C., Beste, C., Prochazkova, L., Wang, K., **Speer, S.**, Smidts, A., ... & Hommel, B. (2022). Resting-state BOLD signal variability is associated with individual differences in metacontrol. *Scientific Reports*, *12*(1), 18425.

Speer, S., Smidts, A., & Boksem, M. A. (2022). Cognitive Control and Dishonesty. *Trends in Cognitive Sciences*, *26*, 796-808.

Speer, S., Smidts, A., & Boksem, M. A. (2022). Individual differences in (dis) honesty are represented in the brain's functional connectivity at rest. *NeuroImage*, *246*, 118761.

Speer, S., Smidts, A., & Boksem, M. A. (2021). Cognitive Control Promotes Either Honesty or Dishonesty, Depending on One's Moral Default. *Journal of Neuroscience*, *41*(42), 8815-8825.

Speer, S., Smidts, A., & Boksem, M. A. (2021). Different neural mechanisms underlie nonhabitual honesty and nonhabitual cheating. *Frontiers in Neuroscience*, *15*, 83.

Speer, S., Smidts, A., & Boksem, M. A. S. (2020). Cognitive control increases honesty in cheaters but cheating in those who are honest. *Proceedings of the National Academy of Sciences*, *117*(32), 19080-19091.

Voigt, K., Murawski, C., **Speer, S**., & Bode, S. (2020). Effective brain connectivity at rest is associated with choice-induced preference formation. *Human Brain Mapping,* 41(11), 3077-3088.

Speer, S., Boksem, M.A.S. (2020). Decoding fairness motivations from multivariate brain activity patterns, *Social Cognitive and Affective Neuroscience. 14*(11), 1197-1207.

Voigt, K., Murawski, C., **Speer, S**., & Bode, S. (2019). Hard decisions shape the neural coding of preferences. *Journal of Neuroscience*, 39(4), 718-726.

WORKING PAPERS & RESEARCH PROJECTS

Speer, S., Lee, C., Falk, E.B., Mwilambwe-Tshilobo, L., Tsoi, L., Burns, S., Baldassano, C., Tamir, D.I. The effect of friendship on temporal and spatial alignment of events in real-time conversation. *Preparing for submisison.*

Speer, S., Falk, E.B., Mwilambwe-Tshilobo, L., Tsoi, L., Burns, S., Tamir, D.I. The relationship between questions and mental state exploration. *Analysis in progress.*

Speer, S., Falk, E.B., Mwilambwe-Tshilobo, L., Tsoi, L., Burns, S., Tamir, D.I. Deciphering optimal sequences of response modes in conversation. *Analysis in progress.*

Speer, S., Martinovici, A., Smidts, A., & Boksem, M. A. The effect of power on (dis)honesty. *Data collection in progress.*

Mwilambwe-Tshilobo, L., Tsoi, L., **Speer, S.,** Falk, E.B., Burns, S., Tamir, D.I. Real-time conversation leads to neural alignment in friends and strangers. *Writing in progress.*

Van Brussel, L., **Speer, S**., van Dolder, D., van Assem, M., Turmunkh, U., Smidts, A., Boksem, M.A.S. Split or Steal: Predicting cooperation in prisoner dilemmas based on the neural response to naturalistic viewing of contestants' interactions. *Writing in progress.*

Zada, Z., Nastase, S., **Speer, S.,** Falk, E., Mwilambwe-Tshilobo, L., Tsoi, L., Burns, S., Hasson, U., Tamir, D.I. Mapping cortical language representation during real-time natural dialogues. *Writing in progress.*

Campdepadros J., **Speer, S.**, Keysers, C. Gazzola, V. A computational view on the gender differences of self-other moral conflict. *Analysis in progress.*

CONFERENCE PRESENTATIONS

The effect of friendship on temporal and spatial alignment of events in real-time conversation
Society for Social and Affective Neuroscience • Chicago 2025 • Oral Presentation
Conversation Workshop • Princeton 2025 • Oral Presentation
Princeton Summit on Affective Science • Princeton 2025 • Poster Presentation

Mental State Dynamics underlying Persuasion and Compromise
Society for Social and Affective Neuroscience • Toronto 2024 • Oral Presentation
Society for Neuroscience • Chicago 2024 • Oral Presentation

A multivariate brain signature for reward
European Society for Cognitive and Affective Neuroscience • Ghent 2024 • Oral Presentation (online)

Friends diverge while strangers align: fMRI hyperscanning conversations
Society for Social and Affective Neuroscience • Santa Barbara 2023 • Oral Presentation
Society for Neuroeconomics • Vancouver 2023 • Poster Presentation

The effect of stress on intuitive moral decisions
Interdisciplinary Symposium on Decision Neuroscience • Online 2021 • Oral Presentation
International Conference for Psychological Science • Brussels 2023 • Oral Presentation

Predicting (dis)honesty from the brain at rest
Society for Neuroeconomics • Online 2020 • Poster Presentation
Society for Social Neuroscience • Online 2021 • Poster Presentation
European Society for Cognitive and Affective Neuroscience • Online 2021 • Poster Presentation

Cognitive control processes override our moral default
Interdisciplinary Symposium on Decision Neuroscience • Duke 2019 • Oral Presentation
Consumer Neuroscience Satellite Symposium • Dublin 2019 • Oral Presentation
Society for Neuroeconomics • Dublin 2019 • Poster Presentation
Society for Social and Affective Neuroscience • Postponed to 2021 • Poster Presentation
Association for Neuropsychoeconomics • Online 2020 • Oral Presentation

Decoding proposers' motivations in the ultimatum game
Society for Social and Affective Neuroscience • Miami 2019 • Poster Presentation
Annual Conference of the Society for Neuroeconomics • Philadelphia 2018 • Oral Presentation
European Society for Cognitive and Affective Neuroscience • Leiden 2018 • Oral Presentation
Association for Neuropsychoeconomics • Zürich 2018 • Poster Presentation

INVITED TALKS

2020 Erasmus University, Psychology Department, Erasmus SYNC Lab, Rotterdam, Netherlands
2023 Boston College, Psychology Department, Morality Lab, Boston, MA
2023 Harvard University, Harvard Business School, Boston, MA
2023 Princeton University, Psychology Department, Prospective's Day, Princeton NJ
2023 Princeton University, Psychology Department, Hasson Lab, Princeton NJ
2024 Princeton University, Psychology Department, Social Psychology Seminar, Princeton NJ
2024 New York University, Psychology Department, Colloquium, New York City, NY
2024 Texas A&M University, Psychology & Neuroscience Department, Colloquium, College Station, TX
2024 University of Colorado Boulder, Psychology & Neuroscience Department, Colloquium, Boulder, CO
2024 University of Coimbra, Neuroscience Department, Colloquium, Coimbra, Portugal
2025 University of Miami, Psychology Department, Colloquium, Miami, FL
2025 Columbia University, Psychology Department, Colloquium, New York City, NY
2025 University College London, Psychology Department, Lab Meeting Hamilton Group, London, UK
2025 University of Helsinki, Psychology Department, Seminar on Engagement, Helsinki, Finland

TEACHING

Neuroeconomics Minor
Lectures on Heuristics and Biases in Decision Making and on Neuroimaging Methods
Supervision of Research proposals

Neuromarketing MSc Elective
Practical tutorial on EEG data collection

Bachelor Thesis Supervision
Guided 60 groups of three students through the process of writing their Bachelor thesis (2018 – 2020)

Master Student Internship Coordinator
Reviewed research proposal for research internships for master students and evaluated the final research reports.

Workshop on Multivariate Pattern Analysis
Gave a tutorial for researchers in psychology and neuroeconomics at Erasmus University on how to apply machine learning methods to fMRI data.

Workshop on EEG data analysis
Gave a tutorial for neuroscience students for the Graduate School of Neuroscience in Amsterdam and Rotterdam on how to preprocess and analyze EEG data in Python.

Introduction to the Social Neuroscience of Empathy
Gave an introductory lecture to neuroscience students for the Graduate School of Neuroscience in Amsterdam and Rotterdam on the neural mechanisms underlying empathy.

SELECTED PhD COURSEWORK

Cognitive Modelling Academy Hamburg	**University of Hamburg**
Summer School for Advanced Modelling of Behavior	**Centre de Recerca Matematica**
Neuroeconomics Summer School 2019	**NYU Shanghai**
Advanced Summer School on the Neural Framework Of Moral Cognition	**Siena, Italy**
Behavioral Decision Theory Machine Learning Programming in Matlab Statistical Methods	**Erasmus University Rotterdam**
Deep Learning Machine Learning	**Stanford University (Online)**
Bayesian Statistics	**UC, Santa Cruz (Online)**
Reinforcement Learning	**University of Alberta (Online)**

SKILLS

Languages:
Fluent in German and English; basic level of Dutch and Spanish.

General Programming:
Python, Matlab, R

Machine learning and statistics:
Scikit-learn, Numpy, Scipy, R

Neuroimaging Analysis:
FSL, SPM, Nilearn, PyMVPA

Behavioral Experimentation:
Mturk, Qualtrics, Presentation

HONORS AND AWARDS

Nomination for the Stichting Praemium Erasmianum's Research Prize for PhD Dissertation
The rector of Erasmus University selected my dissertation as one of four dissertation from the whole university to enter the nation-wide competition for the Stichting Praemium Erasmianum's Research Prize

Best Full-Time PhD Dissertation 2022
The award is for the best dissertation of the Erasmus Research Institute in Management and is selected by and academic committee consisting of Full Professors representing Copenhagen Business School and Bocconi University.

ERIM Talent Placement Program 2019
1-year contract extension of approx. €30,000

Amsterdam University Fund 2015
Individual Travel Grant to support the semester abroad in Australia.

PROFESSIONAL SERVICE AND MEMBERSHIPS

Member of DEI committee, Psychology, Princeton   2023 – present
Member of Social committee, NIN, Amsterdam.   2021 – 2022

Ad hoc reviewer:
Neuroimage, Cerebral Cortex, Social Cognitive and Affective Neuroscience, Nature Communications, Journal of Marketing Research, Journal of Consumer Psychology, Journal of Experimental Psychology: General, Journal of Neuroscience, Proceedings of the National Academy of Sciences

Memberships:
Society for Social and Affective Neuroscience   2019 – 2021, 2023 – present
Society for Neuroeconomics   2018 – 2020, 2023 – present
Association for Psychological Science   2023 – present

REFERENCES

Dr. Diana Tamir   **Princeton University**
Associate Professor of Social Neuroscience   dtamir@princeton.edu

Prof. Emily Falk   **University of Pennsylvania**
Professor of Communication, Psychology and Marketing   emily.falk@asc.upenn.edu

Dr. Valeria Gazzola   **Netherlands Institute for Neuroscience**
Associate Professor of Social Neuroscience   v.gazzola@nin.knaw.nl

Prof. Ale Smidts   **Erasmus University Rotterdam**
Professor of Neuroeconomics   asmidts@rsm.nl

Dr. Maarten Boksem   **Erasmus University Rotterdam**
Associate Professor of Neuroeconomics   mboksem@rsm.nl

Princeton 10/12/2025