

Lei Zhang | 张磊

PERSONAL DETAILS

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|-----------------|---|----------|--|
| Email: | lei.zhang@univie.ac.at | Website: | lei-zhang.net |
| Twitter: | @lei_zhang_lz | Github: | @lei-zhang |
| Google Scholar: | Lei Zhang 张磊 | Publons: | 1241390/lei-zhang |

EMPLOYMENT

2019–present **Postdoctoral Researcher**
Social, Cognitive and Affective Neuroscience Unit (SCAN-Unit), Faculty of Psychology, University of Vienna (UNIVIE), Vienna, Austria

2019–present **Guest Lecturer**
Institute of Systems Neuroscience, University Medical Center Hamburg-Eppendorf (UKE), Hamburg, Germany

2019–2020 **Guest Lecturer**
Max Planck School of Cognition, Leipzig, Germany

2019–2020 **Adjunct Researcher**
Department of Psychology, University of Tromsø (UiT), Tromsø, Norway

2018 **Postdoctoral Researcher**
Institute of Systems Neuroscience, UKE, Hamburg, Germany

2016–2017 **Roche intern for Scientific Exchange (RiSE)**
Neuroscience and Rare Diseases, F. Hoffmann-La Roche AG, Basel, Switzerland

2013–2017 **Predoctoral Researcher**
Institute of Systems Neuroscience, UKE, Hamburg, Germany

2012–2013 **Predoctoral Researcher**
Basque Center on Cognition, Brain & Language (BCBL), San Sebastián, Spain

EDUCATION

2014–2018 **Ph.D. Cognitive Neuroscience (Dr. rer. biol. hum.), *summa cum laude***
University of Hamburg, Hamburg, Germany; Supervisor: Jan Gläscher

2012–2013 **M.Sc. Cognitive Neuroscience**
University of the Basque Country, San Sebastián, Spain

2007–2011 **B.Sc. Psychology**
Beijing Normal University, Beijing, China

FELLOWSHIPS, HONORS, AND AWARDS

2021 Finalist, Collegium Helveticum Junior Fellowship (CHF 81,340), Switzerland

2020 SfN Trainee Professional Development Award, Society for Neuroscience.

2020 Teaching Award for Early Career Researchers (€ 300); also nominee for the “Corona Award” New Teaching, UNIVIE.

2020 SIPS Commendation award, recipient for the *BayesCog* lecture series, Society for the Improvement of Psychological Science.

2020 Nominee for Early Career Award, International Social Cognition Network, ISCON

2019 Chinese government award for outstanding dissertation abroad (\$ 6,000).

2019 Fellow of Kavli Summer Institute in Cognitive Neuroscience (“Brain Camp”),

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| | Santa Barbara, CA, USA. |
| 2018 | Fellow of Advanced Scientific Programming in Python, G-Node. Camerino, Italy. |
| 2014 | Fellow of European Summer School on “Computational Modeling of Cognition with Applications to Society”. Laufen, Germany. |
| 2014 | Fellow of Human Brain Project (HBP) Training School. Alpbach, Austria. |
| 2010 | National Scholarship for Undergraduate Students (\$1,000), China. |

FUNDING

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| Pending | Einstein Foundation Award (PI: € 100,000), Einstein Foundation, Germany |
| 2021 | Lise Meitner Fellowship (PI: € 177,980), Austrian Science Fund (FWF), Austria |
| 2021 | Faculty Research Support Grant (PI: € 2,000) UNIVIE, Austria |
| 2020 | Volkswagen funding initiative “Symposia & Summer Schools” (co-PI: € 15,000), Volkswagen Foundation, Germany |
| 2019 | Researchers Career Grant (PI: € 2,300), Austrian Research Promotion Agency (FFG), Austria |
| 2018 | Independent Postdoc Fellowship (€ 56,000), UKE, Germany |
| 2013–2016 | Graduate Fellowship (€ 43,000), German Research Foundation (DFG), Germany |
| 2012–2013 | Graduate Fellowship (€ 16,000), BCBL, Spain |
| 2009–2011 | National Innovation Experiment Program (€ 1,400), China |
| 2009–2010 | BNU Undergraduate Research Fund (€ 250), China |

TRAINING SCHOOLS AND COURSES

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|------|---|
| 2020 | Neuromatch Academy summer school on computational neuroscience (online) |
| 2020 | Computational Psychiatry Course, ETH Zurich, Switzerland |
| 2015 | Statistical Parametric Mapping (SPM) Course. ETH Zurich, Switzerland |
| 2014 | Statistical Analysis of fMRI Data. Coursera |
| 2013 | fMRI Data Acquisition and Analysis. Lübeck, Germany |

PUBLICATIONS

* = Equal contribution. As of 06/2021: ResearchGate score = 22.45 (>77.5% all members).

Preprints / under review

- Zhao, Y., **Zhang, L.**, Ru tgen, M., Sladky, R., & Lamm, C. (2021). Neural dynamics between anterior insular cortex and right supramarginal gyrus enable genuine sharing and disambiguation from others' pretended pain. *bioRxiv*. DOI: [10.1101/2021.04.30.441951](https://doi.org/10.1101/2021.04.30.441951)
- Yao, Y-Y., Chopurian, V., **Zhang, L.**, Lamm, C., Heekeren, H. (2021). Effects of non-invasive brain stimulation on visual perspective taking: A meta-analytic study. *bioRxiv*. DOI: [10.1101/2021.04.24.441219](https://doi.org/10.1101/2021.04.24.441219)
- Joue, G., Chakroun, K., Hennies, N., Bayer, J., Gläscher, J., **Zhang, L.**, Fuss, J., Sommer, T. (Under review). Sex differences and exogenous estrogen influence learning and brain responses to prediction errors.
- Kreis, I., **Zhang, L.**, Moritz, S. & Pfuhl, G. (2020). Spared performance but increased uncertainty in schizophrenia: evidence from a probabilistic decision-making task. *OSFPreprints*. DOI: [10.31219/osf.io/qaupb](https://doi.org/10.31219/osf.io/qaupb)
- Kreis, I., **Zhang, L.**, Mittner, M., Sylva, L., Lamm, C., & Pfuhl, G. (2020). Aberrant uncertainty processing is linked to psychotic-like experiences, autistic traits and reflected in pupil dilation. *OSFPreprints*. DOI: [10.31219/osf.io/nc2rx](https://doi.org/10.31219/osf.io/nc2rx)

Zhou, L.*, **Zhang, L.***, Su, Y., & Liang, ZY. (2019). Is zero void? Attentional mechanism of hidden-zero effect in risky decision-making. *PsyArXiv*. DOI: [10.31234/osf.io/pmhsa](https://doi.org/10.31234/osf.io/pmhsa)

Journal articles

11. Schmalz, X., Manresa, J., & **Zhang, L.** (in press). What is a Bayes Factor? *Psychological Methods*. DOI: [10.1037/met0000421](https://doi.org/10.1037/met0000421). Preprint: [10.31219/osf.io/vgqbt](https://doi.org/10.31219/osf.io/vgqbt)
10. Zhao, Y., Rütgen, M., **Zhang, L.**, & Lamm, C. (2021). Pharmacological fMRI provides evidence for opioidergic modulation of discrimination of facial pain expressions. *Psychophysiology*, *58*(2), e13717. DOI: [10.1111/psyp.13717](https://doi.org/10.1111/psyp.13717). Preprint: [10.31234/osf.io/uj75y](https://doi.org/10.31234/osf.io/uj75y)
9. Crawley, D.*, **Zhang, L.***, Emily, J., ..., den Ouden, H., Loth, E., & the EU-AIMS LEAP group (2020). Modeling cognitive flexibility in autism spectrum disorder and typical development reveals comparable developmental shifts in learning mechanisms. *PLOS Biology*, *18*(10), e3000908. DOI: [10.1371/journal.pbio.3000908](https://doi.org/10.1371/journal.pbio.3000908). Preprint: [10.31234/osf.io/h7jcm](https://doi.org/10.31234/osf.io/h7jcm)
8. **Zhang, L.**, Gläscher, J. (2020). A brain network supporting social influences in human decision-making. *Science Advances*, *6*(34), eabb4159. DOI: [10.1126/sciadv.abb4159](https://doi.org/10.1126/sciadv.abb4159). Preprint: [10.1101/551614](https://doi.org/10.1101/551614). [Featured by: Soltani, A. (2020). Learning from Others, but with What Confidence? *Trends in Cognitive Sciences*. *24*(12), 963–964. DOI: [10.1016/j.tics.2020.09.011](https://doi.org/10.1016/j.tics.2020.09.011)]
7. **Zhang, L.***, Lengersdorff, L.*, Mikus, N., Gläscher, J., & Lamm, C. (2020). Using reinforcement learning models in social neuroscience: frameworks, pitfalls, and suggestions of best practices. *Social Cognitive and Affective Neuroscience*, *15*(6), 695–707. DOI: [10.1093/scan/nsaa089](https://doi.org/10.1093/scan/nsaa089). Preprint: [10.31234/osf.io/uthw2](https://doi.org/10.31234/osf.io/uthw2)
6. Botvinik-Nezer, R., Holzmeister, F., Camerer, C. F., ..., **Zhang, L.**, ..., Nichols T. E., Poldrack, R. A., Schonberg T. (2020). Variability in the analysis of a single neuroimaging dataset by many teams. *Nature*, *582*, 84–88. DOI: [10.1038/s41586-020-2314-9](https://doi.org/10.1038/s41586-020-2314-9). Preprint: [10.1101/843193](https://doi.org/10.1101/843193)
5. Bayer, J., Rusch, T., **Zhang, L.**, Gläscher, J., & Sommer, T. (2020). Dose-dependent effects of estrogen on prediction error related neural activity in the nucleus accumbens of healthy young women. *Psychopharmacology*, *237*(3), 745–755. DOI: [10.1007/s00213-019-05409-7](https://doi.org/10.1007/s00213-019-05409-7)
4. Zhou, L., Li, AM., **Zhang, L.**, Li, S., & Liang, ZY. (2019). Similarity in processes of risky choice and intertemporal choice: The case of certainty effect and immediacy effect. *Acta Psychologica Sinica*. *51*(3), 337–352. DOI: [10.3724/SPJ.1041.2019.00337](https://doi.org/10.3724/SPJ.1041.2019.00337)
3. **Zhang, L.**, Redžepović, S., Rose, M., & Gläscher, J. (2018). Zen and the Art of Making a Bayesian Espresso. *Neuron*, *98*(6), 1066–1068. DOI: [10.1016/j.neuron.2018.06.023](https://doi.org/10.1016/j.neuron.2018.06.023)
2. Hu, Y., He, L.*, **Zhang, L.***, Wölk, T., Dreher, J. C., & Weber, B. (2018). Spreading inequality: Neural computations underlying paying-it-forward reciprocity. *Social Cognitive and Affective Neuroscience*, *13*(6), 578–589. DOI: [10.1093/scan/nsy040](https://doi.org/10.1093/scan/nsy040)
1. Ahn, W.-Y., Haines, N., & **Zhang, L.** (2017). Revealing neurocomputational mechanisms of reinforcement learning and decision-making with the hBayesDM package. *Computational Psychiatry*, *1*, 24–57. DOI: [10.1162/CPSY_a_00002](https://doi.org/10.1162/CPSY_a_00002). Preprint: [10.1101/064287](https://doi.org/10.1101/064287)

Conference proceedings

2. **Zhang, L.**, Kandil, F., Hilgetag, C.C., & Gläscher, J. (2019). The causal role of temporoparietal junction in computing social influence in human decision-making. *Cognitive Computational Neuroscience (CCN 2019)*. Berlin, Germany. DOI: [10.32470/CCN.2019.1120-0](https://doi.org/10.32470/CCN.2019.1120-0)
1. **Zhang, L.**, Martínez, A., & Salillas, E. (2014). Brain potentials reveal audiovisual integration in bilinguals on arithmetic fact retrieval. *Proceedings of the 2014 IEEE International Conference on Multisensor Fusion and Information Integration for Intelligent Systems (MFI)*, pp. 1–6. DOI: [10.1109/MFI.2014.6997702](https://doi.org/10.1109/MFI.2014.6997702)

Books and Book Chapters

2. **Zhang, L.**, Gläscher, J. (2021). Social influence in human decision-making, in Oxford Research Encyclopedia of Neuroscience. Oxford University Press. Oxford, UK. (Book chapter invited).
1. Zheng, X., **Zhang, L.**, & Jiang, W. (2016). Health psychology. China Light Industry Press. Beijing, China. [Book translation of Brannon, L., Feist, J., & Updegraff, J. (2013). Health psychology: An introduction to behavior and health. United States: Cengage Learning.]

ORGANIZATION OF CONFERENCES AND SYMPOSIA

- Committee Chair 4th Chinese Association for Psychological & Brain Science (CAPBS) annual meeting (online), 14–15, November 2020.
- Committee 2nd CAPBS NeuroChat online conference, 28–30, May 2021.
Symposium on computational psychiatry (online), 17, April 2021.
Symposium on social computational neuroscience (online), 6, November 2020.
NeuroSync online conference: Interpersonal Neuroscience in the Social World. 13, June 2020.
1st CAPBS NeuroChat online conference, 24–26, April 2020.
3rd Chinese Association for Psychological & Brain Science (CAPBS) annual meeting. Utrecht, the Netherlands, 16–17, November 2019.
- Symposium Chair “What do you desire? Multiple facets of motivation in social decision-making”, 5th conference of the European Society for Cognitive and Affective Neuroscience (ESCAN), Budapest, Hungary, 23–26, June 2021 (online).

CONFERENCE PRESENTATIONS (SELECTION)

* = Equal contribution

- Zhang, L.**, Kandil, F., Hilgetag, C.C., & Gläscher, J. (2021). The left temporoparietal junction causally supports goal emulation in human observational learning. *Poster to be presented at the Society for Neuroscience Global Connectome (SfN Global Connectome)*, online.
- Zhang, L.**, Hartmann, H., Rütgen, R., & Lamm, C. (2021). Representational patterns in human visual cortex and their representational connectivity during empathic responses to picture-based pain. *Poster to be presented at International Association for the Study of Pain (IASP) World Congress on Pain* (cancelled due to Covid-19). Amsterdam, the Netherlands.
- Zhang, L.**, Gläscher, J. (2020). Neurocomputational mechanisms of social influence in goal-directed learning. *Talk presented at Neuromatch Conference 2020 (neuromatch.io)*.
- Zhang, L.**, Kandil, F., Hilgetag, C.C., & Gläscher, J. (2019). The causal role of temporoparietal junction in computing social influence in human decision-making. *Poster presented at Symposium on "Biology of Decision Making (SBDM)*. Oxford, UK.
- Zhang, L.**, Gläscher, J. (2018). Neurocomputational mechanisms of social influence in goal-directed learning. *Poster (poster spotlight) presented at FENS Spring Brain Conference: Computational Neuroscience of Prediction*. Rungstedgaard, Denmark.
- Zhang, L.**, Hipp, J., Taylor, K., Chatham, C., & Bolognani, F. (2017). Age-binned normalization of Vineland™-II increases variability in standard scores: Implications for clinical trials in Autism Spectrum Disorder (ASD). *Poster presented at The International Meeting for Autism Research (IMFAR)*, San Francisco, CA, USA.
- Zhang, L.**, Gläscher, J. (2015). Modeling social influence on human decision-making with reinforcement learning theory: A Bayesian perspective. *Poster presented at the Society for Neuroscience Annual meeting (SfN 2015)*, Chicago, IL, USA.

Zhang, L., Gläscher, J. (2014). Reinforcement learning signals of social influence on human decision-making. *Poster presented at the Bernstein Conference 2014, Göttingen, Germany.*

Zhang, L., Martínez, A., & Salillas, E. (2014). The role of finger-based number representations in online arithmetic facts retrieval. *Poster presented at the 20th Annual Meeting of the Organization for Human Brain Mapping (OHBM), Hamburg, Germany.*

INVITED TALKS

- 06 / 2021 Max Planck Institute for Biological Cybernetics & University of Tübingen, Tübingen, Germany (online)
- 05 / 2021 Faculty of Psychology and Educational Sciences, Katholieke Universiteit (KU) Leuven, Leuven, Belgium (online)
- 03 / 2021 Computational psychiatry online journal club (CPoJC)
- 02 / 2021 Friedman Brain Institute, Icahn School of Medicine at Mount Sinai, New York, NY, USA (*Job talk*; Top-3 shortlist for an assistant professorship on computational psychiatry) (online)
- 12 / 2020 State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China (*Job talk* for an associate professorship on cognitive neuroscience) (online)
- 11 / 2020 Center for Brain Disorder & Cognitive Science, Shenzhen University, Shenzhen, China (online)
- 11 / 2020 Computational Psychiatry Unit (PI: Xiaosi Gu) & Affective Neuroscience Lab (PI: Daniela Schiller), Icahn School of Medicine at Mount Sinai, New York, NY, USA (online)
- 11 / 2020 School of Psychology & Cognitive Sciences, Peking University, Beijing, China (online)
- 08 / 2020 Neural Computing & Control Lab (PI: Quanying Liu), Southern University of Science and Technology, Shenzhen, China (online)
- 08 / 2020 Institute of Science and Technology for Brain-Inspired Intelligence (ISTBI), Fudan University, Shanghai, China (online)
- 05 / 2020 Chinese Open Science Network talk series (online)
- 04 / 2020 [Neurochat 2020](#) Chinese Association for Psychological & Brain Science (online)
- 01 / 2020 Cognition Academy, Max Planck School of Cognition, Berlin, Germany
- 11 / 2019 [OnNeuro](#) webinar, Ohio State University, OH, USA (online)
- 10 / 2019 Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 09 / 2019 Decision Neuroscience Lab (PI: Sebastian Gluth), University of Basel, Basel, Switzerland
- 06 / 2018 Learning & Decision-making Lab (PI: Hanneke den Ouden), Donders Institute for Brain, Cognition and Behaviour, Radboud University, Nijmegen, The Netherlands
- 05 / 2018 Neuroeconomics Lab (PI: Jean-Claude Dreher), CNRS, Lyon, France
- 08 / 2017 Loth Lab (PI: Eva Loth), King's College London, London, UK
- 06 / 2017 Roche NORD Research Forum, Basel, Switzerland
- 06 / 2016 Internal seminar at UKE, Hamburg, Germany
- 08 / 2015 International workshop on Neurobiology of Social Influence, Moscow, Russia

PROFESSIONAL AFFILIATIONS AND MEMBERSHIPS

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| 2020–2021 | International Association for the Study of Pain (IASP) |
| 2020–2021 | Social & Affective Neuroscience Society (SANS) |
| 2020–2021 | Society for the Improvement of Psychological Science (SIPS) |
| 2020 | Cognitive Science Society (CSS) |
| 2018–2022 | European Society for Cognitive and Affective Neuroscience (ESCAN) |
| 2014–2017 | Bernstein Association for Computational Neuroscience |
| 2015, 2020 | Society for Neuroscience (SfN) |
| 2014 | Organization for Human Brain Mapping (OHBM) |
| 2014– <i>present</i> | European Society of Social and Affective Neuroscience (ESSAN) |
| 2013 | Society for the Neurobiology of Language (SNL) |

REVIEWER ACTIVITY

Review records can be found on my [Publons](#).

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| Review editor | Frontiers in Psychology |
| Ad-hoc Reviewer | eLife • PLOS Computational Biology • Journal of Mathematical Psychology • Journal of Experimental Psychology: Learning, Memory, and Cognition • Cortex • Royal Society Open Science • Social, Cognitive and Affective Neuroscience • Advances in Psychological Science • Autism Research • Biological Psychology • Frontiers in Psychiatry • Journal of Consulting and Clinical Psychology • Scientific Reports • PLOS ONE |
| Co-reviewer | Journal of Neuroscience • Nature Communications • NeuroImage • Proceedings of the National Academy of Sciences |
| Conference Reviewer | Cognitive Computational Neuroscience (CCN) 2019; Chinese Association for Psychological & Brain Science (CAPBS) 2019 & 2020 |

TEACHING

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| since 2020 | Advanced Data Analysis Theory and empirical research (Mind and Brain track; master's level; 8 ETCS). UNIVIE, Vienna, Austria |
| 2019–2020 | Experimental Design and Statistics Introductory course for first-year PhD students. Max Planck School of Cognition. Leipzig, Germany |
| since 2019 | Biological Basis of Experience and Behavior: Decision Neuroscience Introductory seminar (bachelor's level; 6 ETCS). UNIVIE, Vienna, Austria |
| since 2019 | Bayesian Statistics and Hierarchical Bayesian Modeling for Psychological Science (available on YouTube) Advanced seminar (master's level; 4 ETCS). UNIVIE, Vienna, Austria |
| 2016–2020 | Workshop on Bayesian statistics and Bayesian cognitive modeling 2019: Peking University, Beijing, China; Nanjing University, Nanjing, China; UNIVIE, Vienna, Austria; 2018: UiT, Tromsø, Norway; 2016–2021: UKE, Hamburg, Germany |
| 2018 | Workshop on Reinforcement learning: From theory to implementation UiT, Tromsø, Norway |
| 2017 | Tutorial on Modeling reinforcement learning and decision-making tasks with the hBayesDM package King's College London, London, UK |

2014 **Workshop on Intro2Matlab for psychologists**
Institute of Psychology, Chinese Academy of Science, Beijing, China

TECHNICAL SKILLS

Programming R, Stan, Matlab, Python, JAGS, and Shell scripting
Software Skills hBayesDM, SPM, FSL, Cogent, Psychophysics Toolbox, Microsoft Certified
Application Specialist (MCAS) in Microsoft Word 2007, Google Power
Searcher, Windows OS, Linux OS, Mac OS, and HPC Cluster

IMPACT, OUTREACH, AND DISSEMINATION

Ranked top 25% global reach for scientific impact; see my [ImpactStory](#) profile for a summary.

2020–present COS Ambassador, [Center for Open Science](#)
2020 Communication & outreach of [Neuromatch Academy](#)
2020–present Member of [The AI Guild](#)
2019–present Curator of the official Twitter account [SCAN-Unit](#)
2019–present Podcast appearance at [BrainCoffee](#) & [CallingFrom](#)
2018–present Core member of the Chinese Open Science Network
2015–2017 Nacht des Wissens (Night of knowledge), UKE, Hamburg, Germany

DIVERSITY, EQUALITY, AND INCLUSION

2021–present Network member, [ALBA Network](#) (diversity and equality in neurosciences)
08 / 2021 Panel member, ALBA Panel discussion on Diversity in Central and East Europe
in the 21st century: challenges and solutions, FENS Regional meeting
2020 Nominee for the ALBA-FKNE Diversity Prize