

Lei Zhang | 张磊

PERSONAL DETAILS

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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

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”), 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

2021	Faculty Research Support Grant (PI: € 1,000) 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

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 01/2021: ResearchGate score = 22.54 (>77.5% all members).

Preprints / under review

Joue, I.G., Chakroun, K., Hennies, N., Bayer, J., Gläscher, J., **Zhang, L.**, Fuss, J., Sommer, T. (Under review). Estrogen increases prediction error-related brain activity more than sex differences but both slow learning from feedback.

Schmalz, X., Manresa, J., & **Zhang, L.** (2020). What is a Bayes Factor? *OSFPreprints*. DOI: [10.31219/osf.io/vgqbt](https://doi.org/10.31219/osf.io/vgqbt)

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

10. Zhao, Y., Rütgen, M., **Zhang, L.**, & Lamm, C. (2020). Pharmacological fMRI provides evidence for opioidergic modulation of discrimination of facial pain expressions. *Psychophysiology*. 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/SP.J.1041.2019.00337](https://doi.org/10.3724/SP.J.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	Symposium on social computational neuroscience (online), 6, November 2020. NeuroSync online conference: Interpersonal Neuroscience in the Social World. 13, June 2020. 1st Chinese Association for Psychological & Brain Science (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”, 5 th international conference of the European Society for Cognitive and Affective Neuroscience (ESCAN), Budapest, Hungary, 23 – 26, June 2021.

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

02 / 2021	Friedman Brain Institute, Icahn School of Medicine at Mount Sinai, New York, NY, USA (online)
12 / 2020	State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China (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
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

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 –	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](#).

Review editor	Frontiers in Psychology
Ad-hoc Reviewer	Advances in Psychological Science; Autism Research; Biological Psychology; Cortex; eLife; Frontiers in Psychiatry; Journal of Mathematical Psychology; PLOS ONE; Scientific Reports; Social, Cognitive and Affective Neuroscience
Co-reviewer	Journal of Neuroscience; Nature Communications; NeuroImage; Proceedings of the National Academy of Sciences

Conference Cognitive Computational Neuroscience (CCN) 2019; Chinese Association for
Reviewer Psychological & Brain Science (CAPBS) 2019 & 2020

TEACHING

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; 2016–2020: 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, and Mac OS

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