

Xiangbin Teng (滕相斌), Ph.D.

Department of Psychology
The Chinese University of Hong Kong
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Updated: 12.01.2023

Education

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|-------------------|---|
| 09/2011 – 01/2017 | New York University, New York, United States
Department of Psychology
Ph.D. Cognition and Perception
Thesis: On Multi-scale Processing in The Auditory System
Adviser: David Poeppel |
| 09/2008 – 07/2012 | Peking University, Beijing, China
School of Psychological and Cognitive Sciences
M.S. Psychology
Adviser: Liang Li |
| 09/2003 – 07/2007 | Shanghai Jiao Tong University, Shanghai, China
School of Chemistry and Chemical Engineering
B.S. Chemical engineering of polymers |

Professional Appointment and Research Experience

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|-------------------|---|
| 09/2022 – onwards | Assistant Professor
Department of Psychology, the Chinese University of Hong Kong |
| 09/2021 – 08/2022 | Postdoctoral researcher
Freie Universität Berlin, Germany
Adviser: Radoslaw Martin Cichy |
| 02/2021 – 08/2021 | Postdoctoral researcher
Max Planck Institute for Human Development, Berlin, Germany |
| 03/2017 – 01/2021 | Research associate
Max Planck Institute for Empirical Aesthetics, Frankfurt am Main, Germany |
| 01/2017 – 02/2017 | Visiting scholar
New York University Shanghai, China |

Grant:

- PI, “Improvement on Competitiveness in Hiring New Faculties Funding Scheme”, 01/09/2022 – 31/08/2025

Publication (* Corresponding author/senior author; # Co-first author)

Preprints

- Chang, A., **Teng, X.**, Assaneo, F., & Poeppel, D. (2022). Amplitude modulation perceptually distinguishes music and speech. PsyArXiv.
- Chen, X., **Teng, X.**, Chen, H., Pan, Y., Geyer, P. (2022) Toward reliable signal decoding for electroencephalogram: A benchmark study to EEGNeX. ArXiv.

- **Teng, X.**^{#*}, & Zhang, R-Y.[#] (2021) Sequential Temporal Anticipation Characterized by Neural Power Modulation and in Recurrent Neural Network. *bioRxiv*.
- **Teng, X.**^{*}, Larrouy-Maestri, P., & Poeppel, D. (2021). Segmenting and Predicting Musical Phrase Structure Exploits Neural Gain Modulation and Phase Precession. *bioRxiv*.

Peer-reviewed journals

- **Teng, X.**^{*}, Meng, Q., & Poeppel, D. (2020). Modulation Spectra Capture EEG Responses to Speech Signals and Drive Distinct Temporal Response Functions. *eNeuro*, ENEURO.0399–20.2020
- **Teng, X.**[#], Ma, M.[#], Jin, B., Blohm, S., Cai, Q., Tian, X. (2020) Constraint Structure of Ancient Chinese Poetry Facilitates Speech Content. *Current Biology*, 30(7), 1299–1305.e7.
- **Teng, X.**^{*}, & Poeppel, D. (2019). Theta and Gamma Bands Encode Acoustic Dynamics over Wide-ranging Timescales. *Cerebral Cortex*, 25(Part 2 IS), 3077
- **Teng, X.**^{*}, Cogan, G. B., & Poeppel, D. (2019). Speech fine structure contains critical temporal cues to support speech segmentation. *NeuroImage*, 116152
- Tian, X., Ding, N., **Teng, X.**, Bai, F., & Poeppel, D. (2018). Imagined speech influences perceived loudness of sound. *Nature Human Behaviour*, 2(3), 225.
- **Teng, X.**^{*}, Sun, Y., & Poeppel, D. (2018). Temporal order judgment reveals local-global auditory processes. *Acta Acustica united with Acustica*, 104(5), 817-820.
- **Teng, X.**^{*}, Tian, X., Doelling, K., & Poeppel, D. (2018). Theta band oscillations reflect more than entrainment: behavioral and neural evidence demonstrates an active chunking process. *European Journal of Neuroscience*, 48(8), 2770-2782.
- **Teng, X.**^{*}, Tian, X., Rowland, J., & Poeppel, D.^{*} (2017). Concurrent temporal channels for auditory processing: Oscillatory neural entrainment reveals segregation of function at different scales. *PLoS biology*, 15(11), e2000812.
- **Teng, X.**^{*}, Tian, X., & Poeppel, D. (2016). Testing multi-scale processing in the auditory system. *Scientific reports*, 6, 34390.
- Wu, M., Li, H., Gao, Y., Lei, M., **Teng, X.**, Wu, X., & Li, L. (2012). Adding irrelevant information to the content prime reduces the prime-induced unmasking effect on speech recognition. *Hearing research*, 283(1-2), 136-143.

Conference proceeding (peer-reviewed)

- Shrestha, M., **Teng, X.**, Lee, S., Noeth, U., Poeppel, D., Deichmann, R. (2020). Functional MRI of the Auditory Cortex: Comparison of Different Sequences to investigate Speech and Amplitude Modulated Sounds. In: *Proceedings of the 28th annual meeting of ISMRM*.
- Kong, F., Wang, X., **Teng, X.**, Zheng, N., Yu, G., Meng, Q. (2019). Reverberant speech recognition with actual cochlear implants: verifying a pulsatile vocoder simulation method. In: *Proceedings of the 23rd International Congress on Acoustics*
- **Teng, X.**, Poeppel, D. (2019) Experimental evidence on computational mechanisms of concurrent temporal channels for auditory processing, *Proceedings of Cognitive Computational Neuroscience*
- Zhang, R. Y., Wei, X.X., **Teng, X.**, Kay, K. (2019). Trial-by-trial voxelwise noise correlations improve population coding of orientation in human V1. *Proceedings of Conference on Cognitive Computational Neuroscience*

Book chapter and review

- Poeppel, D., & **Teng, X.** (2020). 2.06 - Entrainment in Human Auditory Cortex: Mechanism and Functions. In B. Fritzsche (Ed.), *The Senses: A Comprehensive Reference (Second Edition)* (pp. 63–76). Oxford: Elsevier.

Talk

Conference and seminar (selected)

- MEGUK 2021
Segmenting and Predicting Musical Phrase Structure Exploits Neural Gain Modulation and Phase Precession.
- E-Forum Acousticum, 2020
On Multi-scale Processing in the Auditory System.
- The Biennial Meeting of the Society for Music Perception and Cognition, 2019.
Neurophysiological Tracking of Musical Phrases in Bach.
- Annual Meeting of the Society for the Neurobiology of Language, 2019 (poster slam)
Constraint Asyntactic Structure of Ancient Chinese Poetry Facilitates Content Parsing: A study combining MEG, RNN, and crowdsourcing.
- International Symposium on Hearing, 2018
Temporal Order Judgment Reveals Local-global Auditory Processes.
- Auditory EEG Signal Processing (AESoP), 2018
Modulation Spectra Capture Characteristic Neural Responses to Speech Signals.

Invited

- *Time-frequency analyses and MCCA on Naturalistic Stimuli in EEG and MEG experiments* – 10.12.2022, Neuroimaging Methods Workshop, College of Liberal Arts and Social Sciences, City University of Hong Kong
- *Music Is a Time Machine: Prediction of Musical Phrasal Boundary Carries the Brain into the Future* – 29.11.2022, International Forum on Neurotechnologies that Connect Music with the Brain, the Tianqiao and Chrissy Chen Institute (TCCI) and the Shanghai Conservatory of Music
- *Temporal Segmentation and Prediction in Poetry and Music* – 17.11.2022, Brown Bag, Department of Psychology, University of California, Riverside
- *Temporal Segmentation and Prediction in Poetry and Music* – 19.10.2022, Seminar, Department of Psychology, Hong Kong University
- *Segmenting and Predicting Musical Phrase Structure Exploits Neural Gain Modulation and Phase Precession* (online) - 15/02/2021, Seminar, Max Planck NYU Center for Language, Music and Emotion (CLaME)
- *Constrained Structure of Ancient Chinese Poetry Facilitates Speech Content Grouping* (online) - 25/09/2020, Journal club, NatMEG center, Karolinska Institutet
- *Segmenting and Predicting Musical Phrase Structure Exploits Neural Gain Modulation and Phase Precession* (online) - 15/09/2020, Language and Computation in Neural Systems Group, Max Planck Institute for Psycholinguistics
- *Temporal States and Belief Updating Captured by Hierarchical Modulations of Alpha-Beta Power* (online) - 11/06/2020, Haegens lab, Donders Institute for Brain, Cognition and Behaviour; Centre for Cognitive Neuroimaging; Radboud University Nijmegen

Ad Hoc Reviewing

Journal of Neuroscience, eLife, Current Biology, PNAS, PLoS Computational Biology, Developmental Science, Neuroscience Letter, The Journal of the Acoustical Society of America, European Journal of Neuroscience, PLoS One, Journal of Neurolinguistics, Scientific Reports, Attention Perception & Psychophysics, Frontiers in Human Neuroscience, Cognition and Consciousness, Neurobiology of Language, Frontiers in Neuroscience

Teaching

- *PSYC3440- Psychology of Music, The Chinese University of Hong Kong*
- *PSYC3360- Human Intelligence, The Chinese University of Hong Kong*

Conference organization and team management

- *Co-founder and committee member: Chinese Association for Psychological & Brain Science (CAPBS) 2017 (Düsseldorf, Germany), 2018 (Nimwegen, the Netherlands) 2019 (Utrecht, the Netherlands), 2020 (online). <https://capbs.github.io/2020/index.html#intro>*
- *Co-founder and committee member: CAPBS Neurochat 2020 (online), TCCI Neurochat 2021 (online) – Ru-yuan Zhang and I acquired funding from Tianqiao & Chrissy Chen Institute: 30000 RMB. <https://neurochat-org.github.io/2021/index.html#intro>*
- *Founder and co-manager of Brains Coffee (锵锵脑科学) podcast team (15 graduate students).*

Science communication and Outreach

- *Podcast co-host of Brains Coffee (锵锵脑科学) – a podcast platform for early career researchers and female researchers in China to share their academic path and experience: 39 episodes and 120,700 views in total. <https://www.ximalaya.com/jiaoyupeixun/35795988/>*
- *Podcast host of 人类行为观察室 – a podcast to convey psychological knowledge to general audiences: 24 episodes and >70,000 views in total. <https://www.ximalaya.com/shishang/39749193/>*
- *Host of weekly seminar of 认知计算神经联盟 – a discussion group of 500 members on research of artificial neural network, computational neuroscience, and cognitive science.*

References

- David Poeppel, Ph.D.
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- Xing Tian, Ph.D.
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