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Education

2008/09-2013/07 Peking University
Ph.D., Applied Mathematics

2004/09-2008/07 Peking University
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Academic Employment

2022/09-present Lin Gang Laboratory
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2018/09-2022/08 Shanghai Center for Brain Science and Brain-Inspired Technology
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2016/09-2018/08 New York University, Xiao-Jing Wang lab
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Publications (* corresponding author):

1. Zhang, Y., Feng, J., **Min, B.*** (2024) Elucidating the selection mechanisms in context-dependent computation through low-rank neural network modeling. *BioRxiv*. https://doi.org/10.1101/2024.09.02.610896

2. Tian, Z., Chen, J., Zhang, C., **Min, B.***, Bo, X., Wang, L. (2024). Mental programming of spatial sequences in working memory in macaque frontal cortex. *Science* in press.

3. Chen J., Zhang C., Hu P., **Min B**.*, Wang L. (2024) Flexible control of sequence working memory in the macaque frontal cortex. *Neuron* 112:1-13. https://doi.org/10.1016/j.neuron.2024.07.024

4. Tao, P., Wang, Q., Shi, J., Hao, X., Liu, X., **Min, B.**, Zhang, Y., Li, C., Cui, H., Chen, L. (2023) Detecting dynamical causality by intersection cardinal concavity. *Fundamental Research.* https://doi.org/10.1016/j.fmre.2023.01.007

5. Xie Y., Hu P., Li J, Chen J., Song W., Wang X.J., Yang T., Dehaene S., Tang S., **Min B**.*, Wang L. (2022) Geometry of sequence working memory in macaque prefrontal cortex. *Science* 375:632-639. https://www.science.org/doi/10.1126/science.abm0204
6. **Min, B**., Bliss, D., Sarma, A., Freedman D., Wang X. (2020) A neural circuit mechanism of categorical perception: top-down signaling in the primate cortex. *BioRxiv*. https://doi.org/10.1101/2020.06.15.151506
7. **Min, B.**, Zhou, D.Z., Cai, D. (2018) Effects of firing variability on network structures with spike-timing-dependent plasticity. *Front. Comput. Neurosci.* 12:1. https://doi.org/10.3389/fncom.2018.00001
8. Li, T.J., **Min, B.**, Wang, Z.M. (2014) Adiabatic elimination for systems with inertia driven by compound Poisson colored noise. *Phys. Rev. E* 89:022144. https://doi.org/10.1103/PhysRevE.89.022144
9. **Min, B.**, and Li, T.J. (2013) Transport in weak dynamic disorder: a unified theory. *Phys. Rev. E* 88:052140. https://doi.org/10.1103/PhysRevE.88.052140
10. Li, T., **Min, B.**, Wang, Z. (2013) Marcus canonical integral for non-Gaussian processes and its computation: Pathwise simulation and tau-leaping algorithm. J. Chem. Phys. 138, 104118. https://doi.org/10.1063/1.4794780
11. **Min, B.**, Li, T.J., Rosenkranz, M., Bao, W.Z. (2012) Subdiffusive spreading of a Bose-Einstein condensate in random potentials. *Phys. Rev. A* 86:053612. https://doi.org/10.1103/PhysRevA.86.053612
12. Hu, Y.C., Li, T.J., **Min, B.** (2011) A weak second order tau-leaping method for chemical kinetic systems. J. Chem. Phys. 135, 024113. https://doi.org/10.1063/1.3609119
13. Hu, Y.C., Li, T.J., **Min, B.** (2011) The weak convergence analysis of tau-leaping methods: revisited. *Comm. Math. Sci*. 965-996. https://dx.doi.org/10.4310/CMS.2011.v9.n4.a2

Refereed and Non-Refereed abstracts:

1. Zhang, Y., Shen, X., Li, X., Okazawa, G., Wang, L., Feng, J., **Min, B.** (2024 poster) Restricted recurrent neural networks: Elucidating mechanisms of higher cognition problems through cross-level modeling. *2024 Neuroscience meeting*, Chicago: Society for Neuroscience.
2. Li, X., Chen, J., Zhang, C., Xie, Y., **Min, B.**, Wang, L. (2024 poster) On the transition of coding schemes for temporal orders in sequence working memory. *2024 Neuroscience meeting*, Chicago: Society for Neuroscience.
3. Zhang, Y., Shen, X., Okazawa, O., **Min, B.** (2023 poster) Elucidating circuit mechanisms underlying task-dependent representational geometry of perceptual decisions. *2023 Neuroscience meeting*, Washington, DC: Society for Neuroscience.
4. Tian, Z., Chen, J., Zhang, C., **Min, B**., Wang, L. (2023 poster). Mental programming of spatial sequences in working memory in macaque frontal cortex. *2023 Neuroscience meeting*, Washington, DC: Society for Neuroscience.

5. Chen J., Zhang C., Hu P., **Min B.**, Wang L. (2023 poster) Flexible control of sequence working memory in the macaque frontal cortex. *2023 Neuroscience meeting*, Washington, DC: Society for Neuroscience.
6. **Min, B**., Bliss, D., Sarma, A., Freedman D., Wang X. (2019, poster) A neural circuit mechanism of categorical perception: Probing top-down signaling. *Computational and Systems Neuroscience (COSYNE)*, Lisbon, Portugal.
7. **Min, B**., Bliss, D., Sarma, A., Freedman D., Wang X. (2018, poster) Categorical perception: Probing top-down signaling and predictive coding. *2018 Neuroscience meeting*, San Diego, CA: Society for Neuroscience.