

# CEBSIT Recent Publications

(2024.01-2024.12)

1. Fang, W.\* , Liu, Y., Wang, L.(2024)Multisensory Integration in Body Representation. **Advances in experimental medicine and biology**. 1437:77.
2. Jiao, Z., Zhang, M., Wu, Y., Li, S., Gao, M., Zhang, W., **Xu, X.** \*(2024)Acute Recruitment of VTA Dopamine Neurons by mPOA Esr1+ Neurons to Facilitate Consummatory Male Mating Actions. **NEUROSCIENCE BULLETIN**. 40:1745-1750.
3. **Poo, M.**\*(2024)China's new ethical guidelines for the use of brain-computer interfaces. **NATIONAL SCIENCE REVIEW**. 11.
4. Zi, H., Peng, X., Sun, L., Li, H., Shen, X., Chen, M., Deng, Q., Hua, Y., Du, J., Li, J.(2024) Foxc1b regulates brain pericyte proliferation in zebrafish larvae. **JOURNAL OF GENETICS AND GENOMICS**. 51: 1334.
5. Simpson, M., Wu, J., **Ye, Z.**\*(2024) Subliminal priming modulates motor sequence learning.**Memory & cognition**.
6. Zheng, Q., **Gu, Y.**\* (2024) From Multisensory Integration to Multisensory Decision-Making. **Advances in experimental medicine and biology**. 1437: 23.
7. Huang, X., Chen, W., Zhu, S. (2024) Expression and Purification of Mammalian NMDA Receptor Protein for Functional Characterization. **Methods in molecular biology**. 2799:13.
8. Li, Q., Jia, S., Zhang, T., Chen, L.(2024)Adaptive Timestep Improved Spiking Neural Network for Efficient Image Classification. **Acta Automatica Sinica**. 50: 1724.
9. **Poo, M.**\*(2024)In search of problems. **CELL**. 187.
10. Zhang, M., **Yu, Q.**\*(2024) The representation of abstract goals in working memory is supported by task-congruent neural geometry. **PLOS BIOLOGY**. 22.
11. Tang, S., Cui, L., Pan, J., **Xu, N.**\*(2024) Dynamic ensemble balance in direct- and indirect-pathway striatal projection neurons underlying decision-related action selection.**CELL REPORTS**. 43.
12. Dou, Y.\* , Liu, Y., Ding, W., Li, Q., Zhou, H., Li, L., Zhao, M., Li, Z., Yuan, J., Wang, X., Zou, W., Li,

- A., Sun, Y.\*(2024)Single-neuron projectome-guided analysis reveals the neural circuit mechanism underlying endogenous opioid antinociception.**National Science Review**. 11.
13. Yao, J., Hou, R., Fan, H., Liu, J., Chen, Z., Hou, J., Cheng, Q., Li, C.\* (2024) Prefrontal projections modulate recurrent circuitry in the insular cortex to support short-term memory.**CELL REPORTS**. 43.
  14. Xiao, Y., Chen, X., Xu, X., Li, C., Poo, M., Chen, S.(2024)Space brain research: progress and prospect. **Scientia Sinica Vitae**. 54:325.
  15. Tian, Z., Chen, J., Zhang, C., Min, B.\* , Xu, B., Wang, L. \*(2024) Mental programming of spatial sequences in working memory in the macaque frontal cortex. **Science**. 385: eadp6091.
  16. Cui, L., Tang, S., Pan, J., Deng, L., Zhang, Z., Zhao, K., Si, B., Xu, N.\* (2024) Causal contributions of cell-type-specific circuits in the posterior dorsal striatum to auditory decision-making. **CELL REPORTS**. 44.
  17. Zhang, R., Deng, H., Xiao, X.\*(2024)The Insular Cortex: An Interface Between Sensation, Emotion and Cognition. **NEUROSCIENCE BULLETIN**. 40: 1763.
  18. Wang, P., Deng, H., Xu, R.\* , Du, J.\* , Tao, R.\*(2024)Improvement in Tol2 transposon for efficient large-cargo capacity transgene applications in cultured cells and zebrafish. **ZOOLOGICAL RESEARCH**. 45: 567.
  19. Huang, Y., Wang, S., Wang, Q., Zheng, C., Yang, F., Wei, L., Zhou, X., Wang, Z.\* (2024) Glutamatergic Circuits in the Pedunculopontine Nucleus Modulate Multiple Motor Functions. **NEUROSCIENCE BULLETIN**. 40: 1713.
  20. Chen, J., Zhang, C., Hu, P., Min, B.\* , Wang, L.\* (2024)Flexible control of sequence working memory in the macaque frontal cortex. **NEURON**. 112.
  21. Liu, D.\* (2024) The power of direct observation: discovery of REM sleep. **NATURE REVIEWS NEUROSCIENCE**. 25: 595.
  22. Zi, H., Peng, X., Cao, J., Xie, T., Liu, T., Li, H., Bu, J., Du, J.\* , Li, J.\*(2024)Piezo1-dependent regulation of pericyte proliferation by blood flow during brain vascular development.**Cell Rep**. 43:113652
  23. Yu, S., Zhang, X., Sun, Y.\* (2024) Peripheral and central innervation pattern of mechanosensory neurons in the trigeminal ganglion. **NEUROSCIENCE**. 565.
  24. Liu, Y., Lou, S., Li, J.,; Liu, Y., Huang, S., Wei, Y., Liu, J., Lv, R., Tang, J., Shen, Z., Sun, Y., Huang, X.\* , Xiong, Z.\* , Yang, H.\* , Zhou, C.\*(2024)Epigenetic editing alleviates Angelman syndrome phenotype in mice by unsilencing paternal Ube3a. **CELL DISCOVERY**. 10.

25. Li, C., Liu, X., Li, Y., Wang, Y., Nie, Y., Xu, Y., Zhang, X., Lu, Y., **Sun, Q.\*** (2024) Generation of mitochondrial replacement monkeys by female pronucleus transfer. *ZOOLOGICAL RESEARCH*. 45:292.
26. Zi, H., Peng, X., **Du, J.\***, Li, J.\* (2024) Protocol for generating a pericyte reporter zebrafishlineKi(pdgfrb-P2A-GAL4-VP16) using aCRISPR-Cas9-mediated knockin technique. *STAR protocols*.6: 103490.
27. Zhang, D., **Zhang, T.\***,Jia, S.,Wang, Q., Xu, B.\* (2024) Tuning Synaptic Connections Instead of Weights by Genetic Algorithm in Spiking Policy Network. *Machine Intelligence Research*. 21: 906-918.
28. **Xu, N.\*** (2024) How the brain's primary processing units compute to give rise to intelligence. *NATURE REVIEWS NEUROSCIENCE*. 25: 288.
29. Li, Y., Zhu, W., Qian, Y., Yang, H., Wu, Y., Meng, J., Huang, X.\*, **Liu, Z.\***, Mu, L.\* (2024) Transcriptomic profiling of day 3 human embryos of poor quality reveals molecular links to divergent developmental trajectories. *CELL REPORTS*. 43.
30. Yang, D., Wu, X., Yao, Y., Duan, M., Wang, X., Li, G., Guo, A., Wu, M., Liu, Y., Zheng, J., Zhang, R., Li, ., Luk, A., Yao, X.\*, Shi, L.\*, Xu, C.\*, **Yang, H.\*** (2024) An RNA editing strategy rescues gene duplication in a mouse model of MECP2 duplication syndrome and nonhuman primates. *NATURE NEUROSCIENCE*. 28.
31. Tong, H., Li, T., Yang, H.\* (2024) Programmable G-to-Y base editing using engineered DNA glycosylase. *Life medicine*.3.
32. Shi, D., Yu, Q.\* (2024) Distinct neural signatures underlying information maintenance and manipulation in working memory. *CEREBRAL CORTEX*. 34.
33. Liao, Z., Zhang, J., Sun, Y., Li, Y., Xu, Y., Li, C., Cao, J., Nie, Y., Niu, Z., Liu, J., Lu, F.\*, **Liu, Z.\***, **Sun, Q.\***(2024) Reprogramming mechanism dissection and trophoblast replacement application in monkey somatic cell nuclear transfer. *Nat. Commun*. 15: 5.
34. **Angelovski, G.\***, Tickner, B., Wang, G. (2024) Opportunities and challenges with hyperpolarized bioresponsive probes for functional imaging using magnetic resonance (2024) *NATURE CHEMISTRY*. 17: 297.
35. Zuo, Y., Wang, Z. (2024) Neural Oscillations and Multisensory Processing. *Advances in experimental medicine and biology*. 1437: 121-137.
36. Wang, K., Chen, T., Zhang, X., Cao, J., Wang, P., Wang, M., **Du, J.\***, **Mu, Y.\***, Tao, R.\* (2024) Unveiling tryptophan dynamics and functions across model organisms via quantitative imaging. *BMC BIOLOGY*. 22.

37. Qu, X., Yang, P., Zhai, R.\*, **Xiong, Z.\*** (2024) Inhibition of RtTg neurons reverses methamphetamine-induced attention deficits. **ACTA NEUROPATHOLOGICA COMMUNICATIONS**. 12.
38. Zhang, Y., **Xu, C.\***, **Gu, Y.\*** (2024) Context Processing in Contextual and Cued Fear Extinction. **NEUROSCIENCE BULLETIN**. 40: 835-839.
39. Wu, L., Jiang, S., Shi, M., Yuan, T., Li, Y., Huang, P., Li, Y., **Zuo, E.\***, **Zhou, C.\***, **Sun, Y.\*** (2024) Adenine base editors induce off-target structure variations in mouse embryos and primary human T cells. **GENOME BIOLOGY**. 25.
40. Yue, P., Nagendraraj, T., Wang, G., Jin, Z., **Angelovski, G.\***(2024) The role of responsive MRI probes in the past and the future of molecular imaging. **CHEMICAL SCIENCE**. 15:20122-20154
41. Kong, X.\*, Li, T., **Yang, H.\***(2024)AAV-mediated gene therapies by miniature gene editing tools. **SCIENCE CHINA-LIFE SCIENCES**. 67:2540-2553.
42. Yan, C., Yang, Z., Chen, P., Yeh, Y., Sun, C., Xie, T.\*, **Huang, W.\***, Zhang, X.\* (2024) GPR65 sensing tumor-derived lactate induces HMGB1 release from TAM via the cAMP/PKA/CREB pathway to promote glioma progression. **JOURNAL OF EXPERIMENTAL & CLINICAL CANCER RESEARCH**. 43.
43. Zhao, M., Cheng, X.\*, Chen, L., Zeng, Y., Lin, K., Li, Y., Zheng, Z., Huang, X., Zuo, D., Guo, Xin-Xin; Guo, J., He, D., Liu, Y., Lin, Y., Wang, C., Lv, W., Su, H., Yao, X., Ye, Z., Chen, X., Lu, Y., Huang, C., Yang, G., Zhang, Y., Lin, M., Wang, N., **Xiong, Z.\***, Chen, W.\* (2024) Antisense oligonucleotides enhance SLC20A2 expression and suppress brain calcification in a humanized mouse model. **NEURON**. 112.
44. Zhang, G.\*, Ma, J., Chan, P., **Ye, Z.\*** (2024) Impaired sequence manipulation in non-demented patients with progressive supranuclear palsy. **BRAIN AND BEHAVIOR**. 14.
45. Xu, B., Wu, J., Xiao, H., Muentel, T., **Ye, Z.\*** (2024) Inferior parietal cortex represents relational structures for explicit transitive inference. **CEREBRAL CORTEX**. 34.
46. Massoumi, R., **Shi, Y.\*** (2024) Editorial: Celebration of DNA Day. **HEREDITAS**. 161.
47. Ye, J., Xu, Y., Ren, Q., Liu, L., **Sun, Q.\*** (2024) Nutrient deprivation induces mouse embryonic diapause mediated by Gator1 and Tsc2. **DEVELOPMENT**. 151.
48. Wang, Y., Wang, Y., Zhang, X., Du, J., Zhang, T., Xu, B. (2024) Brain topology improved spiking neural network for efficient reinforcement learning of continuous control. **FRONTIERS IN NEUROSCIENCE**. 18.

49. Mao, Y., Li, Y., Yang, Z., Xu, N., Zhang, S., Wang, X., Yang, X., **Sun, Q.\***, **Mao, Y.\*** (2024) Comparative transcriptome analysis between rhesus macaques (*Macaca mulatta*) and crab-eating macaques (*M. fascicularis*). **ZOOLOGICAL RESEARCH**. 45: 299-310.
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51. Yang, Y.\*, Yu, M., Lu, Y., Gao, C., Sun, R., Zhang, W., Nie, Y., Bian, X., Liu, Z.\*, **Sun, Q.\*** (2024) Characterizing the rhythmic oscillations of gut bacterial and fungal communities and their rhythmic interactions in male cynomolgus monkeys. **MICROBIOLOGY SPECTRUM**. 12.
52. Tong, H.\*, Wang, H., Wang, X., Liu, N., Li, G., Wu, D., Li, Y., Jin, M., Li, H., Wei, Y., Li, T., Yuan, Y., Shi, L., Yao, X., Zhou, Y.\*, **Yang, H.\***(2024)Development of deaminase-free T-to-S base editor and C-to-G base editor by engineered human uracil DNA glycosylase. **NATURE COMMUNICATIONS**. 15.
53. Xiao, Q., Li, G., Han, D., Wang, H., Yao, M., Ma, T., Zhou, J., Zhang, Y., Zhang, X., He, B.,Yuan, Y., Shi, L., Li, T.\*, **Yang, H.\***, Huang, J.\*, Zhang, H.\* (2024)Engineered IscB-  $\omega$  RNA system with expanded target range for base editing. **NATURE CHEMICAL BIOLOGY**. 21.
54. Ma, J., Zhang, G.\*, Zhao, Z., Chan, P., Ye, Z.\*(2024) Levodopa modulates semantic fluency and uniqueness in non-demented patients with progressive supranuclear palsy. **BRAIN AND BEHAVIOR**. 14.
55. Zhang, G., Zhang, S., Zhao, Z., Ma, J., Chan, P., Ye, Z. (2024) Impaired Sequential Working Memory in Patients With Young Onset Parkinson's Disease. **BRAIN AND BEHAVIOR**. 40:855.
56. Yao, W., Zhang, H., Li, S., Song, S., Ye, Z., Zhou, X. (2024) Methamphetamine abuse impairs sequential working memory. **FRONTIERS IN PSYCHIATRY**. 15.
57. Xiao, H., Lang, L., Ye, Z.\*, Wu, J.\* (2024)Advancing Parkinson's Research: Considerations and Future Directions. **MOVEMENT DISORDERS**. 39: 1430-1431.
58. Zhou, K., Wang, T., Zhang, J., Zhang, J., Liu, X., Guan, J., Su, P., Wu, L., Yang, X., Hu, R., Sun, Q., Fan, Z., Yang, S., Chu, X., Song, W., Shang, Y., Zhou, S., Hao, X., Zhang, X., **Sun, Q.\***, Liu, X.\*, Miao, Y.\* (2024) LEUTX regulates porcine embryonic genome activation in somatic cell nuclear transfer embryos. **CELL REPORTS**. 43.
59. Pan, X., Hu, Y., Lei, G., Wei, Y., Li, J., Luan, T., Zhang, Y., Chu, Y., Feng, Y., Zhan, W., Zhao, C., Meunier, F., Liu, Y., **Li, Y.\***, Wang, T.\* (2024) Actomyosin-II protects axons from degeneration induced by mild mechanical stress. **JOURNAL OF CELL BIOLOGY**. 223.
60. Chang, L., Ran, Y., Yang, M., Auferkorte, O., Butz, E., Hueser, L., Haverkamp, S., Euler, T.,

Schubert, T. (2024) Spike desensitisation as a mechanism for high-contrast selectivity in retinal ganglion cells. *FRONTIERS IN CELLULAR NEUROSCIENCE*. 17.

61. Zhao, J., Xue, L., **Mu, Y.**, Ji, P. (2024) From animal biology to simulated models and back: Comment on control of movement of underwater swimmers: Animals, simulated animates and swimming robots. *PHYSICS OF LIFE REVIEWS*. 49: 17-18.
62. Wang, G.\* , You, C.\* , Feng, C.\* , Yao, W.\* , **Zhao, Z.\***, Xue, N.\* , Yao, Lei.\* Modeling and Analysis of Environmental Electromagnetic Interference in Multiple-Channel Neural Recording Systems for High Common-Mode Interference Rejection Performance. *BIOSENSORS-BASEL*. 14.
63. Yuan, T., Wu, L., Li, S., Zheng, J., Li, N., Xiao, X., Zhang, H., Fei, T., Xie, L., Zuo, Z., Li, D., Huang, P., Feng, H., Cao, Y., Yan, N., Wei, X., Shi, L., Sun, Y., Wei, W.\* , **Sun, Y.\***, Zuo, E.\* (2024) Deep learning models incorporating endogenous factors beyond DNA sequences improve the prediction accuracy of base editing outcomes. *CELL DISCOVERY*. 10.
64. Lu, J., Wu, L., Sun, Y., Huang, X., Gao, C., Guo, X., Zeng, H., Qu, X., Chen, Y., Wu, D., Pei, Y.,; Meng, X., Zheng, Y., Liang, C., Zhang, P., Cai, J., Ding, Z., Yang, G., Ren, N., Huang, C., Wang, X., Gao, Q., Sun, Q., Shi, Y., Qiu, S., Ke, A., Shi, G.\* , Zhou, J.\* , **Sun, Y.\***, Fan, J.\* (2024) Macro CD5L+ deteriorates CD8+T cells exhaustion and impairs combination of Gemcitabine-Oxaliplatin-Lenvatinib-anti-PD1 therapy in intrahepatic cholangiocarcinoma. *NATURE COMMUNICATIONS*. 15.
65. Jin, M., Lin, J., Li, H., Li, Z., Yang, D., Wang, Y., Yu, Y., Shao, Z., Chen, L., Wang, Z., Zhang, Y., Zhang, X., Wang, N., Xu, C.\* , Yang, H.\* , Chen, W.\* , Li, G.\* (2024) Correction of human nonsense mutation via adenine base editing for Duchenne muscular dystrophy treatment in mouse. *MOLECULAR THERAPY NUCLEIC ACIDS*. 35.
66. Wu, J., Liu, Y., Kong, X., Zhang, D., Hao, W.\* , **Ye, Z.\***(2024) Subjective time dilation in abstinent patients with alcohol use disorder. *JOURNAL OF CLINICAL AND EXPERIMENTAL NEUROPSYCHOLOGY*. 46: 878-890.
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Kinesigenic Dyskinesia Via Haploinsufficiency. **ANNALS OF NEUROLOGY**. 96: 758-773.

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71. Qiu, S., Hu, Y., Huang, Y., Gao, T., Wang, X., Wang, D., Ren, B., Shi, X., Chen, Y., Wang, X., Wang, D., Han, L., Liang, Y., Liu, D., Liu, Q., Deng, L., Chen, Z., Zhan, L., Chen, T., Huang, Y., Wu, Q., Xie, T., Qian, L., Jin, C., Huang, J., Deng, W., Jiang, T., Li, X., Jia, X., Yuan, J., Li, A., Yan, J., Xu, N., Xu, L., Luo, Q., **Poo, M.**, Sun, Y.\*, Li, C.\*, **Yao, H.\***, Gong, H.\*, **Sun, Y.\***, **Xu, C.\*** (2024)Whole-brain spatial organization of hippocampal single-neuron projectomes. **Science**. 383, eadj9198
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75. Shang, C., Wang, Y., Zhao, M., Fan, Q., Zhao, S., Qian, Y., Xu, S., Mu, Y.\*, Hao, J.\*, **Du, J.\***(2024)Real-time analysis of large-scale neuronal imaging enables closed-loop investigation of neural dynamics. **Nat. Neurosci**. 27: 1014 – 1018.
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79. Xiao, H., Liang, L., **Ye, Z.\***, Wu, J.\* (2024) Subthalamic Nucleus Stimulation Modulates Cognitive Theory of Mind in Parkinson's Disease. **Movement Disorders**. 39: 1154-1165.
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Transition from open-loop to closed-loop paradigms. *Zoological Research*. 45(3): 518–519.

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