

ION Publication List

(2019.01-2019.12)

1. Gao, Z., Chen, W., Liu, M., Chen, X., Wan, L., Zhang, X., Yuan, L., Lin, J., Wang, M., Zhou, L., Xu, X., and **Sun, Y.*** (2019) Tac1-expressing neurons in the periaqueductal gray facilitate the itch-scratching cycle via descending regulation. *Neuron* 101: 45-59.
2. Fang, Y., Chen, M., Xu, H., Li, P., Han, C., Hu, J., Zhu, S., Ma, H., and Lu, H.* (2019) An orientation map for disparity-defined edges in area V4. *Cereb. Cortex* 29: 666-679.
3. Li, X., Han, Y., Zhang, W., Wang, S., Wei, Y., Li, S., Lin, J., Yan, J., Chen, A., Zhang, X., Zhao, Z., Shen, W. and **Xu, X.*** (2019) Agrp neurons project to the medial preoptic area and modulate maternal nest-building. *J. Neurosci.* 39: 456-471.
4. Han, Z., Chen, W., Chen, X., Zhang, K., Tong, C., Zhang, X., **Li, C.***, and **Liang, Z.*** (2019) Awake and behaving mouse fMRI during Go/No-Go task. *Neuroimage* 188: 733-742.
5. Qiu, P., Jiang, J., Liu, Z., Cai, Y., Huang, T., Wang, Y., Liu, Q., Nie, Y., Liu, F., Cheng, J., Li, Q., Tang, Y., Poo, M., **Sun, Q.***, and **Chang, H.*** (2019) BMAL1 knockout macaque monkeys display reduced sleep and psychiatric disorders. *National Science Review* 6: 87-100.
6. **Liu, Z.***, Cai, Y., Liao, Z., Xu, Y., Wang, Y., Wang, Z., Jiang, X., Li, Y., Lu, Y., Nie, Y., Zhang, T., Li, C., Bian, X., Poo, M., **Chang, H.***, and **Sun, Q.*** (2019) Cloning of a gene-edited macaque monkey by somatic cell nuclear transfer. *National Science Review* 6: 101-108.
7. Zeng, H., Huang, J., Chen, M., Wen, Y., **Shen, Z.*** and **Poo, M.*** (2019) Local homogeneity of tonotopic organization in the primary auditory cortex of marmosets. *Proc. Natl. Acad. Sci. USA.* 116: 3239-3244.
8. Wang, R., Jiang, X., Bao, P., Qin, M., and **Xu, J.*** (2019) Circadian control of stress granules by oscillating EIF2 α . *Cell Death Dis.* 10: 215.
9. Chen, W., Peng, X., Deng, Q., Chen, M., **Du, J.***, and **Zhang, B.*** (2019) Role of olfactorily responsive neurons in the right dorsal habenula-ventral interpeduncular nucleus pathway in food-seeking behaviors of larval zebrafish. *Neuroscience* 404: 259-267.
10. Yin, D., Zhang, Z., Wang, Z., Zeljic, K., Lv, Q., Cai, D., Wang, Y., and **Wang, Z.*** (2019) Brain map of intrinsic functional flexibility in anesthetized monkeys and awake humans. *Front. Neurosci.* 13: 174.
11. Guan, S., Wang, J., Gu, X., Zhao, Y., Hou, R., Fan, H., Zou, L., Gao, L., Du, M., **Li, C.*** and Fang, Y.* (2019) Elastocapillary self-assembled neurotassels for stable neural activity recordings. *Sci. Adv.* 5: 2842.
12. Cai, Y., Cheng, T., Yao, Y., Li, X., Ma, Y., Li, Y., Zhao, H., Bao, J., Zhang, M.*, **Qiu, Z.***, and

- Xue, T.* (2019) In vivo genome editing rescues photoreceptor degeneration via a Cas9/RecA-mediated homology-directed repair pathway. *Sci. Adv.* 5: 3335.
13. Zhang, Z., Cai, D., Wang, Z., Zeljic, K., **Wang, Z.***, and Wang, Y.* (2019) Isoflurane-induced burst suppression increases intrinsic functional connectivity of the monkey brain. *Front. Neurosci.* 13: 296.
 14. Yin, C.*, Li, X., and **Du, J.*** (2019) Optic tectal superficial interneurons detect motion in larval zebrafish. *Protein & Cell* 10: 238-248.
 15. Liu, X., Liu, L., Ji, Y., Li, C., Wei, T., Yang, X., Zhang, Y., Cai, X., Gao, Y., Xu, W., Rao, S., Jin, D., Lou, W.*, **Qiu, Z.***, and Wang, X.* (2019) Enrichment of short mutant cell-free DNA fragments enhanced detection of pancreatic cancer. *EBioMedicine* 41: 345-356.
 16. Luo, J., He, K., Andolina, I., Li, X., Yin, J., Chen, Z., **Gu, Y.*** and **Wang, W.*** (2019) Going with the flow: the neural mechanisms underlying illusions of complex-flow motion. *J. Neurosci.* 39: 2664-2685.
 17. Zuo, E., Sun, Y., Wu, W., Yuan, T., Ying, W., Sun, H., Yuan, L., Steinmetz, L.*, Li, Y.*, and **Yang, H.*** (2019) Cytosine base editor generates substantial off-target single nucleotide variants in mouse embryos. *Science* 364: 289-292.
 18. Xu, W., Bao, P., Jiang, X., Wang, H., Qin, M., Wang, R., Wang, T., Yang, Y., Lorenzini, I., Liao, L., Sattler, R., and **Xu, J.*** (2019) Reactivation of nonsense-mediated mRNA decay protects against C9orf72 dipeptide-repeat neurotoxicity. *Brain* 142: 1349-1364.
 19. Jiang, W., Liu, J., Zhang, D., Xie, T., and **Yao, H.*** (2019) Short-term influence of recent trial history on perceptual choice changes with stimulus strength. *Neuroscience* 409: 1-15.
 20. Zhang, M., Zhou, C., Wei, Y., Xu, C., Pan, H., Ying, W., Sun, Y., Sun, Y., Xiao, Q., Yao, N., Zhong, W., Li, Y., Wu, K., Yuan, G., Mitalipov, S.*, Chen, Z.* and **Yang, H.*** (2019) Human cleaving embryos enable robust homozygotic nucleotide substitutions by base editors. *Genome Biol.* 20: 101.
 21. Zhong, L., Zhang, Y., Duan, C., Deng, J., Pan, J. and **Xu, N.*** (2019) Causal contributions of parietal cortex to perceptual decision-making during stimulus categorization. *Nat. Neurosci.* 22: 963-973.
 22. Sheng, M., Lu, D., Shen, Z. and **Poo, M.*** (2019) Emergence of stable striatal D1R and D2R neuronal ensembles with distinct firing sequence during motor learning. *Proc. Natl. Acad. Sci. USA.* 116: 11038-11047.
 23. Cheng, C., Yang, K., Wu, X., Zhang, Y., Shan, S., Gitler, A., Ghosh, A., and **Qiu, Z.*** (2019) Loss of CREST leads to neuroinflammatory responses and ALS-like motor defects in mice. *Transl. Neurodegener.* 8: 13.
 24. Zhang, L., Xue, Z., Liu, Q., Liu, Y., Xi, S., Cheng, Y., Li, J., Yan, J., Shen, Y., Xiao, C., Xie,

- Z.*, **Qiu, Z.***, and Jiang, H.* (2019) Disrupted folate metabolism with anesthesia leads to myelination deficits mediated by epigenetic regulation of ERMN. *EBioMedicine* 43: 473-486.
25. Zhang, R.*, Du, W., Prober, D. and **Du, J.*** (2019) Müller glial cells participate in retinal waves via glutamate transporters and AMPA receptors. *Cell Rep.* 27: 2871-2880.
 26. Wang, J., Lou, S., Wang, T., Wu, R., Li, G., Zhao, M., Lu, B., Li, Y., Zhang, J., Cheng, X., Shen, Y., Wang, X., Zhu, Z., Li, M., Takumi, T., Yang, H., Yu, X., Liao, L.*, and **Xiong, Z.*** (2019) UBE3A-mediated PTPA ubiquitination and degradation regulate PP2A activity and dendritic spine morphology. *Proc. Natl. Acad. Sci. USA.* 116: 12500-12505.
 27. Li, H., Yang, L., Yin, D., Chen, W., Liu, G., Ni, W., Wang, N., Yu, W., Wu, Z.*, and **Wang, Z.*** (2019) Associations between neuroanatomical abnormalities and motor symptoms in paroxysmal kinesigenic dyskinesia. *Parkinsonism Relat Disord.* 62: 134-140.
 28. Li, M., Yuan, N., Chen, X., Lu, Y., Gong, H., Qian, L., Wu, J., Zhang, S., Shipp, S., Ian, M., Sun, X.*, and **Wang, W.*** (2019) Impact of Acute Intraocular Pressure Elevation on the Visual Acuity of Non-human Primates. *EBioMedicine* 44: 554-562.
 29. Tong, D., Chen, R., Lu, Y., Li, W., Zhang, Y., Lin, J., He, L., Dang, T., Shan, S., Xu, X., Zhang, Y., Zhang, C., Du, Y., Zhou, W., Wang, X.*, and **Qiu, Z.*** (2019) The critical role of ASD-related gene CNTNAP3 in regulating synaptic development and social behavior in mice. *Neurobiol. Dis.* 130: 104486.
 30. Zhou, C., Sun, Y., Yan, R., Liu, Y., Zuo, E., Gu, C., Han, L., Wei, Y., Hu, X., Zeng, R., Li, Y.*, Zhou, H.*, Guo, F.*, and **Yang, H.*** (2019) Off-target RNA mutation induced by DNA base editing and its elimination by mutagenesis. *Nature* 571: 275-278.
 31. Zhang, X., Yan, W., Wang, W., Fan, H., Hou, R., Chen, Y., Chen, Z., Ge, C., Duan, S., Albert, C., and **Li, C.*** (2019) Active information maintenance in working memory by a sensory cortex. *eLife* 8: e43191.
 32. Tong, C., Dai, J., Chen, Y., Zhang, K., Feng, Y.*, and **Liang, Z.*** (2019) Differential coupling between subcortical calcium and BOLD signals during evoked and resting state through simultaneous calcium fiber photometry and fMRI. *Neuroimage* 200: 405-413.
 33. Yuan, L., Dou, Y., and **Sun, Y.*** (2019) Topography of reward and aversion encoding in the mesolimbic dopaminergic system. *J. Neurosci.* 39: 6472-6481.
 34. Yu, S., and **He, J.*** (2019) Stochastic cell-cycle entry and cell-state-dependent fate outputs of injury-reactivated tectal radial glia in zebrafish. *eLife* 8: e48660.
 35. Cheng, T.*, Li, S., Yuan, B., Wang, X., Zhou, W., and **Qiu, Z.*** (2019) Expanding C–T base editing toolkit with diversified cytidine deaminases. *Nat. Commun.* 10: 3612.
 36. Xin, Y., Zhong, L., Zhang, Y., Zhou, T., Pan, J., and **Xu, N.*** (2019) Sensory-to-category

- transformation via dynamic reorganization of ensemble structures in mouse auditory cortex. *Neuron* 103: 909-921.
37. Fang, W., Li, J., Qi, G., Li, S., Sigman, M., and **Wang, L.*** (2019) Statistical inference of body representation in the macaque brain. *Proc. Natl. Acad. Sci. USA*. 116: 20151-20157.
 38. Cui, Y., Li, X., Zeljic, K., Shan, S., **Qiu, Z.***, and **Wang, Z.*** (2019) Effect of PEGylated magnetic PLGA-PEI nanoparticles on primary hippocampal neurons: reduced nanoneurotoxicity and enhanced transfection efficiency with magnetofection. *ACS Appl Mater Interfaces*. 11: 38190-38204.
 39. Hou, H., Zheng, Q., Zhao, Y., Pouget, A., and **Gu, Y.*** (2019) Neural correlates of optimal multisensory decision making under time-varying reliabilities with an invariant linear probabilistic population code. *Neuron* 104: 1010-1021.
 40. Zhang, S., Wang, Q., Yang, Q., Gu, H., Yin, Y., Li, Y., Hou, J., Chen, R., Sun, Q., Sun, Y., Hu G. and **Zhou, J.*** (2019) NG2 glia regulate brain innate immunity via TGF- β 2/TGFBR2 axis. *BMC Medicine* 17: 204.
 41. Peng, J., Sheng, A., Xiao, Q., Shen, L., Ju, X., Zhang, M., He, S., Wu, C., and **Luo, Z.*** (2019) Single-cell transcriptomes reveal molecular specializations of neuronal cell types in the developing cerebellum. *J. Mol. Cell Biol.* 11: 636-648.
 42. Yang, G., Zhou, C., Wang, R., Huang, S., Wei, Y., Yang, X., Liu, Y., Li, J., Lu, Z., Ying, W., Li, X., Jing, N., Huang, X.*, **Yang, H.***, and Qiao, Y.* (2019) Base-Editing-Mediated R17H Substitution in Histone H3 Reveals Methylation-Dependent Regulation of Yap Signaling and Early Mouse Embryo Development. *Cell Rep.* 26: 302-312.
 43. Liu, Y., Li, J., Zhou, C., Meng, B., Wei, Y., Yang, G., Lu, Z., Shen, Q., Zhang, Y., and **Yang, H.***, Qiao, Y.* (2019) Allele-specific genome editing of imprinting genes by preferentially targeting non-methylated loci using Staphylococcus aureus Cas9 (SaCas9). *Sci. Bull.* 64: 1592-1600.
 44. Hu, X., Wang J. , Yao, X., Xiao, Q. , Xue, Y., Wang, S., Shi, L., Shu Y. *, Li, H. *, and **Yang, H.*** (2019) Screened AAV variants permit efficient transduction access to supporting cells and hair cells. *Cell Dis.* 5: 49.
 45. Zhou, Y., Liu, Z., Zhang, J., Dou, T., Chen, J., Ge, G., **Zhu, S.***, and Wang, F.* (2019) Prediction of ligand modulation patterns on membrane receptors via lysine reactivity profiling. *Chem. Commun.* 55: 4311-4314
 46. Lu, S., Guo, Y., Liang, P., Zhang, S., Yin, S., Yin, Y., Wang, X., Ding, F., Gu, X., and **Zhou,**

- J.*** (2019) Suppression of astrocytic autophagy by α B-crystallin contributes to α -synuclein inclusion formation. *Transl. Neurodegener.* 8: 3.
47. Ma, S., Zhang, Y., Liu, N., Xiao, W., Li, S., Zhang, G., Zhou, X., Münte, T.*, and **Ye, Z.***(2019)Altered transposition asymmetry in serial ordering in early Parkinson's disease. *Parkinsonism Relat. D.* 62: 62-67
48. Yang, T., Jia, L., Zheng, Q., and **Ye, Z.***(2019) Forward and backward recall of serial actions: Exploring the temporal dynamics of working memory for instruction. *Mem. Cognit.* 47: 279-291

Review Articles:

1. **Shang, C.***, Wang, Y., and **Du, J.*** (2019) Information integration for motor control. *Curr. Opin. Physiol.* 8: 116-120. (Review)
2. Wang, H.*, and **Yang, H.*** (2019) Gene-edited babies: What went wrong and what could go wrong. *PLOS Biol.* 17: e3000224. (Review)
3. Yang, Q., and Zhou, J. (2019) Neuroinflammation in the central nervous system: Symphony of glial cells. *Glia* 67: 1017–35. (Review)