NINGYU ZHANG

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Address: 26 Bedford Way, University College London, WC1H 0AP, UK

EDUCATION

2021 **University College London, UK**
- Doctor of Philosophy in Behavioural Neuroscience

2016 **Harvard University, USA**
- Visiting Graduate Student at Graduate School of Arts and Sciences (*GPA 4.0/4.0*)

2015 **Imperial College London, UK**
- Master of Research in Experimental Neuroscience (*Distinction*)

2014 **University College London, UK**
- Bachelor in Psychology (*Hons*)

2011 **University College London, UK**
- International Foundation: Undergraduate Preparatory Certificates for Science and Engineering (*Distinction*)

RESEARCH EXPERIENCES

2016 - 2021 **PhD Thesis, Institute of Behavioural Neuroscience, UCL**
- *Revealing the neural basis of the sense of direction in retrosplenial cortex*
- Supervised by Prof. Kate Jeffery.

2016 **Summer Internship, RIKEN Brain Science Institute, Japan**
- *In vivo modifications of functional connectivity in mice visual cortex by optic stimulation*
- Supervised by Dr. Andrea Benucci.

2015 **Graduate Rotation, Institute of Cognitive Neuroscience, UCL**
- *The role of wakeful rest in episodic memory generalization*
- Supervised by Prof. Neil Burgess & Dr. Aidan Horner.

2015 **Graduate Rotation, Imperial College London**
1. *Brain volume abnormalities correlate with neuropsychological impairments in Alzheimer's dementia: a voxel based morphometric study using MRI*
    - Supervised by Dr. Robert Leech.
2. *Amyloid precursor protein modulates β-catenin distribution and Wnt signalling pathway: evidence in cell lines, transgenic mice model and human patients of Alzheimer's disease*
    - Supervised by Dr. Magdalena Sastre.

2014 **Summer Internship, Institute of Neuroscience, China**
- *A toxin-induced mouse model of Parkinson's disease*
- Supervised by Prof. Mu-Ming Poo.

AWARDS

2019 UCL Studentship for postgraduate work (supported by Wellcome Trust grants to K.J.).
2017 UCL Sully Scholarship for academic excellence in PhD Year 2
2016 China Scholarship Council PhD Scholarship (Top 4% applicants worldwide)
2016 RIKEN Brain Science Institute Summer Program Fellowship

PUBLICATIONS

- **Zhang, N.,** Grieves, R. & Jeffery, K. An environment-specific direction code in rat retrosplenial cortex. (*In preparation)*.
- Lomi, E., Mathiasen, M., Cheng, H., **Zhang, N**., Aggleton, J.P., Mitchell, A.S., & Jeffery, K. (2021). Evidence for two distinct retrosplenial cortex subcircuits. (*Submitted*).
- **Zhang, N.,** Parr, C. J., Birch, A. M., Goldfinger, M. H., & Sastre, M. (2018). The amyloid precursor protein binds to β-catenin and modulates its cellular distribution. *Neuroscience Letters, 685*, 190-195.
- Mitchell, A. S., Czajkowski, R., **Zhang, N.,** Jeffery, K., & Nelson, A. J. (2018). Retrosplenial cortex and its role in spatial cognition. *Brain and Neuroscience Advances, 2*: 1-13.
- Wilson, J. J., Harding, E., Fortier, M., James, B., Donnett, M., Kerslake, A., O'Leary, A., **Zhang, N.,** & Jeffery, K. (2015). Spatial learning by mice in three dimensions. *Behavioural Brain Research, 289*, 125-132.

CONFERENCES

Posters presentations

- Zhang, N., Jeffery, K. Retrosplenial 'bi-directional' cells become tetra-directional in a fourfold-symmetric environment. Program No. 694.26. 2019 Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience, 2019.
- Zhang, N., Jeffery, K. Stay oriented: visual landmarks as dominant directional cues in the rat brain. Poster presented at the 10th Royal Institute of Navigation Conference, Egham, UK, 2019.
- Zhang, N., Jeffery, K. Environmental landmarks as dominant directional cues in the rat brain. Poster presented at the Bernstein Centre for Computational Neuroscience Navigation Symposium, Germany, 2019.
- Zhang, N., Jeffery, K. Bi-directional firing pattern in rat retrosplenial cortex is specific to environmental setting. Poster presented at the 2nd Interdisciplinary Navigation Symposium, Montréal, Canada, 2018.

Oral presentations

- An environment-dependent directional code in retrosplenial cortex. Talk presentation at Université Paris Descartes, Paris, France, 2019.
- An environment-dependent directional code in retrosplenial cortex. Talk presentation at the Department of Neurobiology, Harvard Medical School, Boston, MA, USA, 2019.
- The neural basis of the sense of direction in rat retrosplenial cortex. Talk presentation at the Institute of Neuroscience, Chinese Academy of Science, Shanghai, China, 2019.
- How does the brain's 'compass' work in environments with different structures? Talk presentation at the 6th European Neuroscience Conference by Doctoral Students, London, UK, 2019.