Xiongjie Yu

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EDUCATION/DEGREES EARNED

9/2003- 6/2008 *Ph.D Program*, Institute of Biophysics, Chinese Academy of Sciences, Beijing
Under Dr. Jufang he and Dr. Shigang he
9/1999- 6/2003 *Bachelor of Science***,** Wuhan University, Wuhan, Hubei Province

EMPLOYMENT HISTORY

6/14 – present *Professor,* Zhejiang University, Hangzhou, China
5/2012–5/2014 *Postdoctoral Research Associate*, Baylor College of Medicine, (Dora lab moved to Baylor).
12/2009- 5/2012 *Postdoctoral Research Associat*e, Washington University School of Medicine, St Louis, MO.
Under Dr. Dora angelaki.
8/2009–10/2009 *Research Associate*, The Hong Kong Polytechnic University
Under Dr.Jufang he in his Hongkong lab.

HONORS and AWARDS

11/2016 Zhejiang 1000 Talent Program

PUBLICATIONS

RESEARCH ARTICLES IN REFEREED JOURNALS (10 in total, 3 at Zheda)

ZIINT Papers:

Xu, X.X., Y.Y. Zhai, X.K. Kou, and **X. Yu***, *Adaptation facilitates spatial discrimination for deviant locations in the thalamic reticular nucleus of the rat.* Neuroscience, 2017. **365**: p. 1-11. (IF:3.2769 ;Cite:0)

This is the first paper to characterize the stimulus specific adaptation and novelty detection in the spatial domain on the neural level. I designed and supervised the project, analysed the data, and wrote the paper. My postdoc Xu X.X., my student Y.Y. Zhai, and my technician X.K. Kou together collected and analysed the data.

Laurens, J. [1st], S. Liu[1st], **X.J. Yu[1st]**, R. Chan, D. Dickman, G.C. DeAngelis, and D.E. Angelaki*****, *Transformation of spatiotemporal dynamics in the macaque vestibular system from otolith afferents to cortex.* Elife, 2017. **6**. (IF:8.303 ;Cite:1)

This is the first paper to compare the properties of spatiotemporal dynamics along the vestibular pathway. I collected and analysed the data of the vestibular nerve, and I was the co-first author of the paper. Laurens did the modling work; S collected and analysed the data of vestibular neuclei; R. Chan, D. Dickman and G.C. DeAngelis analysed the data. D.E. Angelaki designed and supervised the project, analysed the data, and wrote the paper.

Yu, X.J.*, J.D. Dickman, G.C. DeAngelis, and D.E. Angelaki*, *Neuronal thresholds and choice-related activity of otolith afferent fibers during heading perception.* Proc Natl Acad Sci U S A, 2015. **112**(20): p. 6467-72. (IF:9.423 ;Cite:7)

This is the first paper to seek the choice signal in the first order neuron in the system neuroscence. I designed the project, collected and analysed the data, and wrote the paper. J.D. Dickman collected data, G.C. DeAngelis analysed the data, D.E. Angelaki designed and supervised the project, analysed the data, and wrote the paper.

Prevous Papers:

Yu, X.-J. [1st], J.S. Thomassen[1st], J.D. Dickman, S.D. Newlands, and D.E. Angelaki, *Long-term deficits in motion detection thresholds and spike count variability after unilateral vestibular lesion.* J Neurophysiol, 2014. **112**(4): p. 870-89. (IF:2.887 ;Cite:10)

I collected the data from the vestibular nerve, and J.S. Thomassen collected the data from the vestibular neuclei. We both analyzed the data, and wrote the paper. J.D. Dickman collected data with us. S.D. Newlands did the surgury. D.E. Angelaki designed and supervised the project, analysed the data, and wrote the paper.

Xu, X., X. **Yu, J**. He, and I. Nelken, *Across-ear stimulus-specific adaptation in the auditory cortex.* Frontiers in Neural Circuits, 2014. **8**. (IF:3.568 ;Cite:4)

I designed the project. XX collected and analysed the data. **J**. He and I. Nelken supervised the project, analysed the data and wrote the paper.

Yu, X.J., J.D. Dickman and D.E. Angelaki, *Detection thresholds of macaque otolith afferents.* J Neurosci, 2012. **32**(24): p. 8306-16. (IF:6.747 ;Cite:16)

I collected and analyzed the data, and wrote the paper. J.D. Dickman collected the data. D.E. Angelaki designed and supervised the project, analysed the data, and wrote the paper.

Yu, X.-J., X.K. Meng, X.X. Xu, and J. He, *Individual auditory thalamic reticular neurons have large and cross-modal sources of cortical and thalamic inputs.* Neuroscience, 2011. **193**: p. 122-31. (IF:3.3269 ;Cite:10)

I collected and analyzed the data, and wrote the paper. X.K. Meng and X.X. Xu collected the data. J. He designed and supervised the project, analysed the data, and wrote the paper.

Yu, X.-J., X.X. Xu, X. Chen, S. He, and J. He, *Slow recovery from excitation of thalamic reticular nucleus neurons.* J Neurophysiol, 2009. **101**(2): p. 980-7. (IF:2.887 ;Cite:23)

I designed the project, collected and analyzed the data, and wrote the paper. X.X. Xu and X. Chen collected the data. S. He analyzed the data. J. He supervised the project, analysed the data, and wrote the paper.

Yu, X.J., X.X. Xu, S. He, and J. He, *Change detection by thalamic reticular neurons.* Nature Neuroscience, 2009. **12**(9): p. 1165-1170. (IF:14.975 ;Cite:98)

I designed the project, collected and analyzed the data, and wrote the paper. X.X. Xu collected the data. S. He analyzed the data. J. He designed and supervised the project, analysed the data, and wrote the paper.

WORKING PAPERS and BOOKS (4)

Zhai, Y.Y., Y. Tang and **X. Yu***, *Integrative Stimulus-Specific Adaptation of Natural Sounds in the Auditory Cortex of Awake Rat.* To be submitted, 2017

I have finished the manuscript , which is now being polished by an company and then will be edited by an expert in the auditory field before submission. I designed and supervised the project, analysed the data, and wrote the paper. My student Zhai Y.Y. and my technician Y. Tang collected and analysed the data.

Rui, Y.Y., He J., Y.Y. Zhai and **X. Yu***, *Frequency Dependent Stimulus-Specific Adaptation and Regularity Sensitivity in the Auditory Thalamus of Rat.* To be submitted, 2017

I am now drafting the manuscript , and will submit it soon. I designed and supervised the project, analysed the data, and wrote the paper. My student Rui, Y.Y., He J., and Y.Y. Zhai together collected and analysed the data.

Zhai, Y.Y., J. He and **X. Yu***, *Spatial resolution in terms of firing rate, latency, and spike train in the auditory thalamocortical system* To be submitted, 2018.

We have finished the data collecting and now are analysing the data. I designed and supervised the project,

analysed the data, and wrote the paper. My students Zhai, Y.Y., and J. He collected and analysed the data.

Liu, S. [1st], **X.J. Yu[1st]**, J. Laurens[1st], R. Chan, D. Dickman, G.C. DeAngelis, and D.E. Angelaki, *Transformation of spatiotemporal dynamics in the macaque vestibular system from canal afferents to cortex.* To be submitted, 2017.

I collected and analysed the data of the vestibular nerve, and I was the co-first author of the paper. Laurens did the modling work; Liu, S collected and analysed the data of vestibular neuclei; R. Chan, D. Dickman and G.C. DeAngelis analysed the data. D.E. Angelaki designed and supervised the project, analysed the data, and wrote the paper.

PATENTS

2017 An automatic self-learning device for rodents and primates in detection and 2AFC behaviors (pending)

CONFERENCES

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CONFERENCE & SYMPOSIUM ORGANIZER

9/2016 International auditory conference, Hangzhou

PUBLISHED ABSTRACTS & CONFERENCE PRESENTATIONS

Yu XJ, He SG, He J (2006) Temporal response properties of the thalamic reticular nucleus neurons of the rat. Society for Neuroscience 36th Annual Meeting, Atlanta, GA, October 14-18, 2006.

Yu XJ, He SG, He J (2007) Slow recovery from excitation of thalamic reticular nucleus neurons. Chinese Society for Neuroscience 7th Annual Meeting, Hangzhou, October 24-28, 2007.

Yu XJ, He SG, He J (2008) Novelty detection in the thalamic reticular nucleus. Society for Neuroscience 38th Annual Meeting, Washington DC, November 15-19, 2008

Yu XJ, J. D. DICKMAN, D. E. ANGELAKI (2011) Direction detection thresholds of macaque otolith and semicircular canal afferents 41st Annual Meeting, Washington DC, November 12-16, 2011.

Yu XJ, J. D. DICKMAN, D. E. ANGELAKI (2012) Detection thresholds of macaque otolith afferents 42st Annual Meeting, New Orleans, LA, Oct 13-17, 2012

Yu XJ, J. D. DICKMAN, D. E. ANGELAKI (2013) Efferent control of spike rate variability in the peripheral vestibular system 43st Annual Meeting, San Diego, CA, Nov 9-13, 2013.

INVITED PRESENTATIONS

- Naijin, The third auditory conference, October 2017
- Tianjin, The 12TH biennial conference of Chinese neuroscience society, October 2017
- Guangzhou, Dept. of physiology, Southern Medical University, November 2016
- Hangzhou, International auditory conference, September 2016
- Xichang, Science and technology symposia 2016, August 2016
- City University of Hong Kong, July 2016
- Wuzhen, The 11TH biennial conference of Chinese neuroscience society, September 2015

FUNDING

Current:

1/2017- 12/2020 Mianshang grant from NSF, **role: PI** (670, 000 direct)

1/2017- 12/2019 The national key basic research program from ministry of science and technology, **role: Co-PI** (150, 000 direct)

SERVICE

Review Committees

2017 Review Expert for Zhejiang Provincial Science and Technology Award

Editorships

2017 - present Review Editor in Auditory Cognitive Neuroscience for the Frontiers Community

Journal Reviewer

Cerebral Cortex, Frontier in Neuroscience

Professional Organizations

Society for Neuroscience, Chinese Society for Neuroscience

COURSES
Courses taught at Zhejiang University:

Neuroscience 2017: Auditory system. lecturer. Fall 2017.

Neuroscience 2016: Auditory system. lecturer. Fall 2016.

Neuroscience 2015: Auditory system. lecturer. Fall 2015.

Courses taught outside Zhejiang University:

Neuroscience 2015: Auditory system. lecturer. Shanghai Jiaotong University. Fall 2015.

GRADUATE STUDENTS and POSTDOCTORAL RESEARCHERS under my supervision
POSTDOCTORAL RESEARCHERS

Current:

Zhihai SUN (2017 - present) Neuronal mechanism underlying SSA in MGB

Former:

Xinxiu Xu(2015 –2016) Spatial adaptation in TRN
Currently research Associate at institute of neuroscience,shanghai

GRADUATE STUDENTS

Current:

Yuyin Zhai (2014 – present) Spatial perception in AC

Yumei Gong (2015 – present) Populational SSA and MMN in AC

Jie He (2016 – present) Neuronal correlates with novelty detection in primates MGB

Jie Xu (2016 – present) Neuronal correlates with novelty detection in primates AC