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EDUCATION

2017-Present **Professor**
Interdisciplinary Institute of Neuroscience and Technology,
Zhejiang University, Hangzhou, China

2011-2016 **Postdoctoral Fellow**
Department of Biomedical Engineering
Johns Hopkins University School of Medicine, Baltimore, MD
(Advisor: Xiaoqin Wang)

2009-2011 **Postdoctoral Fellow**
Department of Rehabilitation Science, Hong Kong Polytechnic University, Hongkong
(Advisor: Jufang He)

2009 **Ph.D.**
Chinese Academy of Sciences, Beijing, China
Institute of Neuroscience, Neurobiology
(Advisor: Mu-ming Poo)

2004 **M.S.**
East China Normal University, Shanghai, China
Molecular Neuroscience
(Advisor: Xin-de Sun)

2000 **B.S.**
Inner Mongolia University, College of Life Science,
Huhehot, Inner Mongolia,
Microbiology

RESEARCH ACTIVITIES

Research Interests

- Perception and cortical representation of complex sounds
- Auditory perception in different brain state (sleep, awake, passive VS active listening)
- Neural mechanisms underlying complex sound processing
- Neural mechanisms underlying sound contextual modulation.
- Vocal communication
- The auditory neural plasticity and habitation
- The thalamocortical circuitry

Publications

Peer-reviewed articles

1. **Lixia Gao*,** Xinjian Li, Wenwei. Yang, Xinde Sun, Modulation of the azimuth tuning plasticity in rat primary auditory cortex by medial prefrontal cortex, Neuroscience, 347:36-47, 2017.

2. **Lixia Gao**, Kevin Kostlan, Yunyan Wang and Xiaoqin Wang , Distinct Subthreshold Mechanisms Underlying Rate-Coding Principles in Primate Auditory Cortex. Neuron, 91 (4): 905-919, 2016

3. **Lixia Gao**, Xiankai Meng, Yang Dan, Muming Poo, Jufang He, Xiaohui Zhang Entrainment of slow oscillations of auditory thalamic neurons by repetitive sound stimuli J. Neurosci. 29(18): 6023-6031, 2009.

4. **Lixia Gao,** Fei Gao, Xinde Sun, Effects of lead on learning and memory. Biology Teaching, 2004 (6), 2004.

5. Wenwei Yang, **Lixia Gao**, Xinde Sun, Receptive field plasticity of neurons in rat auditory cortex. Chinese Science Bulletin 49 (13): 1364-1369, 2004.

Manuscripts in progress

1. **Lixia Gao*** and Xiaoqin Wang, Novel intracellular recording technique developed in the cortex of awake marmoset, under review

2. **Lixia Gao*** and Xiaoqin Wang, Subthreshold mechanisms underlying integration and transformation in the primary auditory cortex of awake marmosets, under review

3. **Lixia Gao***, Jufang He, Stimulus-Specific Adaptation in the Medial Geniculate Body is Modulated by the Thalamic Reticular Nucleus, in preparation.

4. **Lixia Gao***, Jufang He, Performance of individual thalamic neurons improved after simulated slow wave oscillations, in preparation.

Honors

1. W. Barry Wood, Jr. Research Award, Johns Hopkins University school of medicine, 2017
2. “Tomorrow’s Star” Award, GlaxoSmithKline (GSK) R&D China, 2010
3. The Travel Award, the 32th Annual Meeting of the Japan Neuroscience Society, 2010

Conference Presentations

Invited Talks

1. **Lixia Gao**, Subthreshold response properties of the primary auditory cortex in awake marmosets studied by intracellular recordings, nanosymposia at Society for Neuroscience, San Diego, CA. (11/14/2016)

2. **Lixia Gao**, Distinct subthreshold mechanisms underlying temporal coding schemes to time-varying stimuli in primate auditory cortex, International Conference on auditory neuroscience, Zhejiang University Interdisciplinary Institute of Neuroscience and Technology, Hangzhou, China , 24-25 September 2016.
3. **Lixia Gao**, Neuronal mechanisms underlying the temporal coding diversity in the auditory cortex of awake marmoset, the TDT Symposium on Advances and Perspectives in Auditory Neurophysiology, Chicago, IL. 16 October 2015.
4. **Lixia Gao**, Intracellular recordings from the primary auditory cortex of awake marmoset, New York, NY, Auditory Splash meeting, 10 May 2014.
5. **Lixia Gao**, Higher frequencies power is phase-lock to slow oscillations during different brain states, International Auditory Workshop, Hefei, China 4 October 2010.

Posters

1. **Lixia Gao**, Yunyan Wang, Xiaoqin Wang , Subthreshold mechanisms underlying cortical refinement in the auditory cortex of awake marmosets. Society for Neuroscience 2016 Annual Meeting, San Diego, CA, US, 2016.11.12-11.16
2. **Lixia Gao,** Xiaoqin Wang Neuronal mechanisms underlying the temporal coding diversity in the auditory cortex of awake marmoset, the TDT Symposium on Advances and Perspectives in Auditory Neurophysiology. Chicago, IL. 2015. 10.16
3. **Lixia Gao**, Xiaoqin Wang Harmonic processing in primary auditory cortex of awake marmoset revealed by intracellular recordings. Society for Neuroscience 2015 Annual Meeting, Chicago, IL. 2015.10.17-2015.10.21
4. **Lixia Gao**, Xiaoqin Wang Neural mechanisms underlying long-lasting contextual modulations in auditory cortex of awake marmoset studied by intracellular recording. Society for Neuroscience 2014 Annual Meeting, Washington, DC. 2014.11.15-11.19
5. **Lixia Gao**, Xiaoqin Wang Neural mechanisms underlying the coding of time-varying stimuli in primary auditory cortex of awake marmoset studied by intracellular recording. Society for Neuroscience 2013 Annual Meeting, San Diego, CA, US, 2013.11.09-11.13
6. **Lixia Gao**, Jufang He Modulation of slow oscillations to the sound coding in auditory thalamus. Society for Neuroscience 2011 Annual Meeting, Washington, DC. 2011.11.12-11.16

7. **Lixia Gao**, Jufang He; Stimulus specific adaptation in medial geniculate body modulated by thalamic reticular nucleus, Society for Neuroscience 2010 Annual Meeting, San Diego, CA, US, 2016.11.13-11.17
8. **Lixia Gao**, Xiankai Meng, Changquan Ye, Haitian Zhang, Chunhua Liu, Yang Dan, Mu-ming Poo, Jufang He and Xiaohui Zhang. Entrainment of Slow Oscillations of Auditory Thalamic Neurons by Repetitive Sound Stimuli. The 32th Annual Meeting of the Japan Neuroscience Society. Nagoya, Japan, 2010.09.15-09.19
9. **Lixia Gao**, Xiankai Meng, Changquan Ye, Haitian Zhang, Chunhua Liu, Yang Dan, Mu-ming Poo, Jufang He and Xiaohui Zhang. Entrainment of Slow Oscillations of Auditory Thalamic Neurons by Repetitive Sound Stimuli. The 8th Biennial Conference of the Chinese Society for Neuroscience, Guangzhou, China 2009.11.07-11.10