

## “Cellular mechanisms of sound localization: roles of synaptic inhibition and neuromodulation”

by

**Prof. Yong Lu**  
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**Time: 11:00am to 12:00nn**

**Venue: Meeting Room 2-130, 1/F, Block 2, To Yuen Building, City University of Hong Kong**

### **Abstract**

Sound localization is essential for animal communication and survival. As the cues for sound localization, interaural time and level differences (ITD and ILD) are analyzed by distinct neural circuits in the auditory brainstem. Specialized neuronal properties of sound localizing neurons in these circuits are investigated. We aim to provide a basic understanding of the cellular mechanisms of sound localization, which may provide the basis for therapeutic intervention in hearing disorders characterized by impaired sensitivity to precise temporal features in sounds.

### **About the Speaker**

The research interests of Prof. Lu's research group encompass four areas: Functions of G-protein-coupled receptors in auditory information processing, development and activity-dependent regulation of neuronal properties of central auditory neurons, Calcium signaling in central auditory neurons and cellular mechanisms underlying sound localization. Electrophysiological (e.g. whole-cell recordings) and cell imaging (e.g. calcium imaging) approaches, combined with pharmacological tools, are employed. Their work aims to help lay the groundwork for decisions about possible therapeutic approaches to hearing defects such as tinnitus and hearing loss.

After his BS/MS graduation of Beijing Normal University, P.R. China, Prof. Lu obtained a Ph.D in 1999 at the University of Missouri, Columbia, Mo. He was a post-doctoral fellow at the University of Washington, Seattle, Wash from 1999 to 2005. In 1992, he was a Lecturer at the Beijing Normal University. In 2012, he has been an associate professor at the Northeast Ohio Medical University.

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**All are welcome**