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**Department of Biomedical Sciences presents a seminar on Neuroscience**

# *Plasticity of the auditory cortex on multiple time scales*


*By*

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**Date:** **27 Oct 2014 (Monday)**

**Time:** **11am – 12noon**

**Venue:** **Room 5-205, Academic 3**
**City University of Hong Kong**
**Tat Chee Avenue, Kowloon Tong**


## *Abstract:*

One of the hallmarks of the brain is the ability of its circuits to be sculpted by experience. This is especially evident in primary sensory areas. While experience has the strongest influence during critical periods in development, plasticity can occur in adult. The mechanisms enabling the adult cortex to change are not well understood. We study cortical plasticity after the critical period using in vivo 2-photon imaging, electrophysiology, and in vitro laser scanning photostimulation to investigate these issues. We find that top-down circuits enable rapid large-scale plasticity in auditory cortex.Moreover, we find that short-term visual deprivation can lead to altered responses in the auditory cortex and change auditory cortical circuits.Together we find that large-scale plasticity in the cerebral cortex does not stop after development but that auditory cortex remains plastic on a variety of time scales and conditions.Collectively, these results provide insight into how within the auditory cortex sensory information is represented and adaptively transformed to enhance auditory function.



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*~ All are Welcome ~*