

Seminar

What can we learn from statistical models of auditory neurons?

Prof. Jan Schnupp

Professor

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Date: 19 January 2017 (Thursday)
Time: 12:00 nn – 1:30 pm (Reception with light sandwiches starts at 11:45 am. To facilitate the order of sandwiches, please register through email yfung2222@cityu.edu.hk.)
Venue: B6605, Academic 1, City University of Hong Kong
Language: English

Abstract

Ever since von Békésy described the mechanical tuning properties of the cochlea, sensory physiologists have been interested how the auditory system performs frequency domain analyses of incoming sound, and measuring "tuning curves" of central auditory neurons, typically with sequences of pure tones of different frequencies and intensities, has been a standard thing to do for over 5 decades. However, pure tone tuning curves are often of limited use in trying to predict how auditory neurons will respond to novel, complex sounds. In recent years, the use of "spectro-temporal receptive field" (STRF) filter models has become increasingly popular. STRFs effectively try to capture the transformation of sound waveforms into neural spike trains through multiple regression models. In my talk I will review some of our recent uses of such STRF models to try to elucidate the computations performed by the auditory brain.

Biography



Prof. Schnupp graduated from University College London with a Bachelor in Genetics in 1990 and obtained a doctorate in Neurophysiology from the University of Oxford in 1996 and a bachelor in mathematical sciences from the Open University in 2006. He was a junior research fellow at Christ Church, Oxford and a visiting research fellow at the University of Wisconsin at Madison before joining the faculty of the University of Oxford in 2002, where he was promoted to Professor in 2010. In 2016, Jan joined the faculty of City University of Hong Kong.

**** ALL ARE WELCOME ****