



## CBS Research Seminar

### Perfect pitch - why do some people have this ability?

Presented by

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Date: 27 August 2018 (Monday)

Time: 2:00 p.m. - 3:00 p.m.

Venue: HJ302, The Hong Kong Polytechnic University

All are welcome.

#### ABSTRACT

Perfect Pitch (also called Absolute Pitch) is the ability to recognize the pitch of a musical tone accurately and instantaneously, without having an external reference. This is considered to be a rare trait and previously Sacks (1995) reported that approximately 1 in 10,000 people has this ability. It is thought that perfect pitch is a dominant trait that is heritable (probably determined by a single gene, or very few genes), but that trait needs to be developed through early music training. Apparently perfect pitch cannot be learnt even though relative pitch (i.e. ability to distinguish pitch with an external reference) can be learnt readily. Some people manage to learn a pseudo-perfect pitch ability that is not nearly as exact as perfect pitch (in terms of accuracy, the speed of recognition and range of the pitch). The part of the brain that might be responsible for pitch has been studied: As the Heschl's gyrus was shown to be larger in professional musicians, it was thought to be important for pitch recognition. Later studies comparing brain scans of perfect pitch possessors with non-possessors found that there is greater activities in the left superior temporal sulcus (Bermudez and Zatorre, 2009), and another more recent study shown that there is greater intracortical myelination for AP musicians in the anterior region of the supratemporal plane, particularly the medial region of the right planum polare (PP; Kim & Knösche, 2016). With the help of a website developed by Dr. Jane Gitschier and her colleagues (now not available anymore), our group has recruited more than 50 subjects with perfect pitch with the aim to find the gene for perfect pitch. This talk will give an account of our research in the identification of the gene locus for perfect pitch in Hong Kong Chinese by a candidate gene approach. Some speculations about the potential biological mechanism of perfect pitch attainment will also be discussed.