

The University of Hong Kong
Department of Psychology

Departmental Seminar

***A neurocomputational approach to
metacognition and insight***

Date: July 4, 2014 (Friday)

Time: 11:30 a.m. – 12:30 p.m.

Venue: Room 8.13, 8/F The Jockey Club Tower, Centennial Campus,
HKU

Speaker: Dr. Stephen M. Fleming

Center for Neural Science, New York University

Department of Experimental Psychology, University of Oxford

Metacognition concerns the evaluation of one's own cognitive processes and underscores the ability to "know that we know". For example, a student who has high confidence that they have learnt enough for an exam may put away the books and stop studying. This "cognitive" aspect of self-awareness is often thought to be a hallmark of the human mind, and, as this example illustrates, is crucial for high-level control of behaviour. Despite the centrality of metacognition in human mental life, the neural and computational mechanisms that underpin metacognition remain poorly understood, partly due to the absence of a quantitative framework within which to study insight in the lab. In this talk I will outline how extensions of signal detection theory can quantify metacognitive ability across different cognitive domains such as perception and memory. I will describe applications of this method to understand changes in metacognition that occur following brain damage, and to probe the mechanisms underpinning confidence in perceptual judgments using brain stimulation and eye-tracking in healthy volunteers.