The University of Hong Kong
Department of Psychology

Departmental Seminar

Top-down Processing and Feature Extraction in Health and Early Psychotic Illness

Date: September 11, 2015 (Friday)

Time: 11:30 a.m. – 12:30 p.m.

Venue: Room 1103, 11/F, The Jockey Club Tower,
Centennial Campus, HKU

Speaker: Dr. Christoph Teufel
School of Psychology
Cardiff University

Classic models of visual perception assume that early stages of information-processing are carried out by arrays of specialized and static feature-detectors that operate independently of high-level representations of a stimulus. Current developments in computational and cognitive neuroscience challenge this notion, hypothesizing that feedback connections from higher- to lower-level stages of processing shape the properties of feature detectors to optimize their performance. I will present results from psychophysical studies focusing on the role of prior object knowledge in feature extraction, which directly support the notion of feedback influences from high-level image interpretation onto very early information-processing units; moreover, the results provide some insight into the functional significance of these effects. I will also discuss recent findings from a study with patients at a high risk of developing psychosis that illustrates the clinical relevance of these top-down effects.