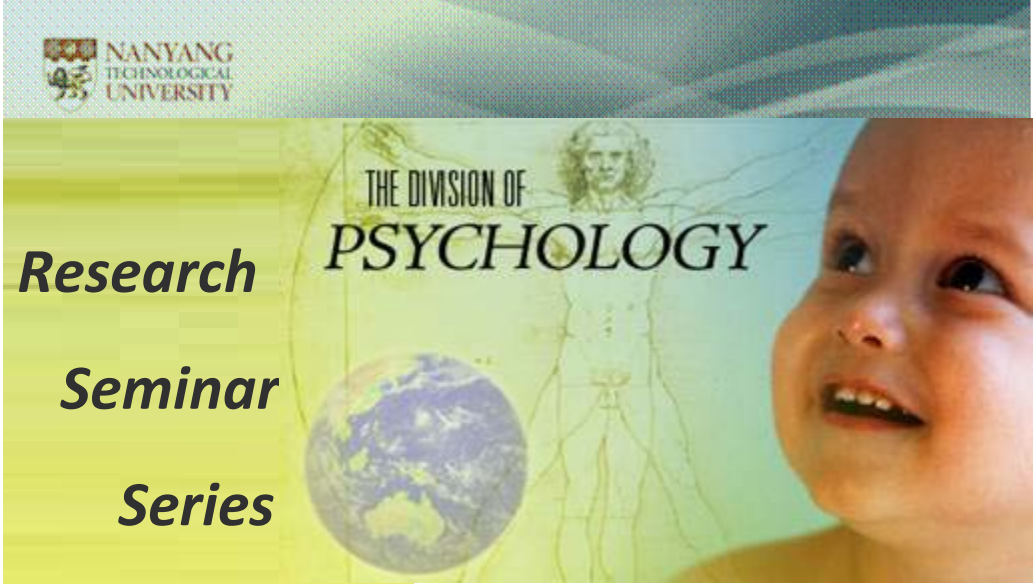

Functional Patterns of Attentive Brains

Dr. Michelle Liou

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27 October 2009 (Tuesday) 11:30am – 12:30pm

HSS Seminar Room 3 (HSS-B1-10)

Abstract

The reproducibility map has been proposed as a methodology to investigate brain regions that are routinely engaged in experimental tasks, but might be modest in response magnitude in fMRI (functional magnetic resonance imaging) studies. Empirical evidence has shown that brain regions locked to experimental tasks are typically responsive with smaller amplitude, but their responses are consistent throughout the experimental trials and subjects. In this talk, I will outline the conceptual movement from statistical significance evidence (e.g., SPM) to reproducibility evidence in fMRI studies, and discuss the connection between brain structures (Ivanitsky et al., HP, 1981; 1984) and their specialization in top-down attentional tasks based on functional patterns of 20 subjects who participated in either a spatial attention task (Rao et al., JOCN, 2000) or a change detection task (Huettel et al., JOCN, 2001). I will also briefly touch on the issue of future direction of fMRI studies in cognitive science.

Biography

Dr. Michelle Liou received her Ph.D with specialization in applied statistics and quantitative psychology from the University of Pittsburgh in 1984. After teaching 4 years in the Psychology Department at the National Taiwan University, and 1 year at the University of California, Berkeley, she has been working as Research Fellow in the Institute of Statistical Science, Academia Sinica (ROC). She was Associate Editors for Journal of Educational Measurement and Journal of Educational and Behavioral Statistics, and Co-Editor for Statistica Sinica. She is currently the Review Editor for Applied Psychological Measurement, and Associate Editors for several Chinese journals on psychological methods. Her research interests are mainly in applied statistics useful for functional neuroimaging including EEG/MEG data. She received distinguished research awards from the National Science Council (ROC) in 1999, 2003 and 2009, and also the recipient of the 2003 New Perspectives in fMRI research award, Dartmouth College. Other than research work, she enjoys fine arts and church services.

~~~~~ All Are Welcome ~~~~~