

Seminar Announcement

Neurobiology of resilience and vulnerability to stress

Date: 22 April 2016 Friday

Time: 4pm

Venue: Classroom 1, SBS



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Abstract

Individuals vary in their capacities and manner of coping with stress. I am interested in biological determinants of this variability. Historical experience and ensuing brain plasticity has robust influence on stress resilience and vulnerability. We have used several stress and enrichment paradigms to demonstrate that timing and duration of stress and environmental enrichment in particular stages of life shape brain plasticity for resilient and vulnerable behavior. The neuronal plasticity within amygdala is of particular importance in this regard. This is congruent with important role of this brain region is generating fear and anxiety. For example, early life stress results in stress sensitivity through amygdala hypertrophy without affecting cortical brain regions, whereas adult life stress involves both amygdala and cortical areas. Interestingly housing environment rich in sensory possibilities can rescue effects of both early and adult life stress on brain, behavior and physiology. In this talk I will present our recent work showing institution of stress resilience by enrichment, including evidence from the domain of behavior, neuronal structures and function.