
Seminar

Early life experience and the programming of psychiatric vulnerability

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The brain is plastic. This refers to the ability of the brain to undergo changes based on experience. Experience-dependent plasticity results in modifications to the functional outputs of neuronal circuits, and underlies the very ability of the brain to adapt to changing environments. Plasticity can occur at multiple levels, spanning the spectrum from molecular adaptations such as epigenetic changes, structural remodeling including pruning of dendrites/axons and neurogenesis, and synaptic plasticity that results in the strengthening/weakening of synaptic contacts based on experience. While accumulating evidence suggests that the brain remains fairly plastic throughout life, it is clear that there are also time-windows during development when the brain is highly sensitive to its environment, referred to as “critical periods”. These critical periods allow neurocircuits, that are laid out through a genetic blueprint, to adjust their functional outputs based on the environment they experience. The neurocircuitry that underlies emotional behaviors is also fine-tuned in response to early life experience, and plastic changes in these circuits result in life-long changes in emotional behavior. My talk will focus on the neuroplastic changes that contribute to the long-lasting consequences of early life experience on emotional and cognitive behavior in rodent models.

Wednesday, May 6th 2015

4:00 PM (Tea/Coffee at 3:45 PM)

Seminar Hall, TCIS