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मौलिक विज्ञान प्रकर्ष केन्द्र

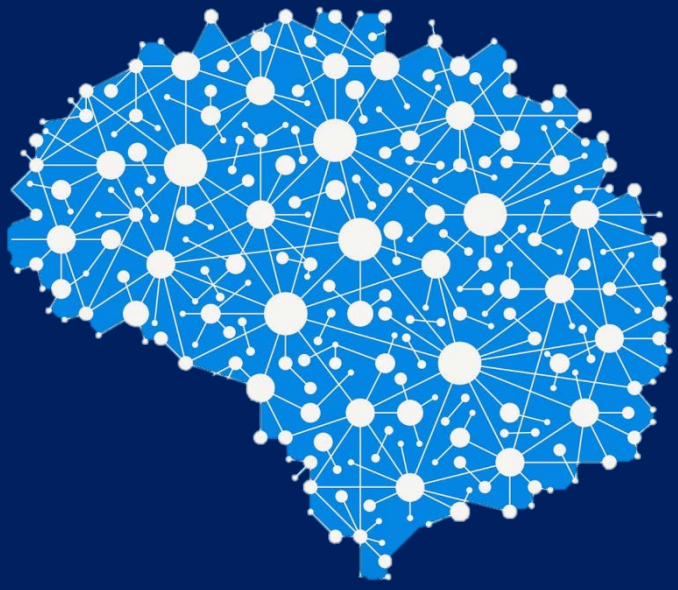
Tuesday COLLOQUIUM

The Emotional Brain- Imprints of Life History

by

Prof. Vidita Vaidya, TIFR

Abstract: 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. Her 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.



Vidita Vaidya received her undergraduate degree from St. Xavier's College, Mumbai in Life-Science and Biochemistry. She obtained her doctoral degree in Neuroscience at Yale University in the lab of Dr. Ronald Duman.

Her postdoctoral work was done at the Karolinska Institute in Sweden with Dr. Ernest Arenas and at the University of Oxford in UK with Dr. David Grahame-Smith. She joined the Dept. of Biological Sciences, TIFR in March, 2000. She has been a Wellcome Trust Overseas Senior Research Fellow and is an Associate of the Indian Academy of Sciences. She received the National Biosciences Award in 2012 and the Shanti Swarup Bhatnagar Award in 2015.

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