EXTERNAL SEMINAR

INMED Conference Room

Monday, 12th December 2016 - 11 a.m

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Invited by: François MICHEL

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Making sense of dopamine neuron connectivity and vulnerability

Dopamine neurons in the brain display an elaborate axonal domain with an intriguing dichotomy between synaptic and non-synaptic contacts. Some of these neurons are lost in Parkinson's disease. Although the mechanisms underlying neuronal demise in Parkinson's disease are not well understood, impaired mitochondrial function and pathological protein aggregation are suspected as playing a major role. Why dopamine neurons and a select small subset of brain nuclei are particularly vulnerable to such ubiquitous cellular dysfunctions is presently one of the key unanswered questions in Parkinson's disease research. This talk will present recent data testing the intriguing hypothesis that the heightened vulnerability of these neurons is a consequence of the particular morphological characteristics of these cells, which are long range projections neurons with a highly elaborate axonal arborization and elevated bioenergetic requirements.

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