



INSTITUT PARIS DESCARTES  
NEUROSCIENCES  
COGNITION



## Neuroscience Seminar Series

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**Friday, November 13th, 2015 at 11:30**

Salle des Conférences (R229)  
Centre Universitaire des Saints-Pères  
45 rue des Saints-Pères, 75006 Paris

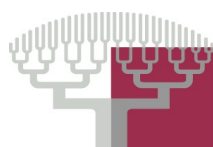
### **Baljit Khakh**

*Professor, Department of Physiology, David Geffen School of Medicine, UCLA*

#### ***Astrocyte dysfunction in neural circuits: focus on Huntington's disease***

We will report the detailed exploration of how early onset astrocyte dysfunction, without any evidence of accompanying astrogliosis, drives disease in mouse models of Huntington's disease (HD). The cellular mechanisms involve dysfunctional homeostasis and signaling mediated by Kir4.1, Glut1 and  $Ca^{2+}$ . Our data directly show that the rules for astrocyte engagement in a neuronal circuit are altered in a brain disease caused by a known molecular defect, and that fixing early onset astrocyte dysfunction can remedy cellular deficits. Overall, our data show that key aspects of altered neuronal excitability and cortico-striatal synapses associated with HD are secondary to dysfunctional astrocyte-mediated homeostasis and signaling, thereby providing details of a new striatal microcircuit mechanism in HD. The data show that prodromal changes in astrocytes represent novel therapeutic targets in brain disorders.

(To meet with the speaker contact Serge Charpak, [serge.charpak@parisdescartes.fr](mailto:serge.charpak@parisdescartes.fr))



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