Symposia Series: «Open questions in Neuroscience»
Center for Neurophysics, Physiology & Pathology
Institute of Neuroscience and Cognition
Paris Descartes University, 45 Rue des Saints Pères, Paris

Symposium #2 :
Random Matrices, Dynamics of Large Networks, and Neuroscience
March, 11, 2014
Conference room of the Center for Neurophysics, Physiology & Pathology (3rd floor)
Organizers: David Hansel, Gianluigi Mongillo & Carl van Vreeswijk
Sponsored by ANR and Paris Neuroscience School
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8:30 Coffee and croissants

9:00-10:40: Random matrices
9:00- 9:50: Florent Benaych-Georges (MAP5, Paris Descartes University)
Review of recent results in random matrices
9:50 -10:40 Yashar Ahmedian (Columbia University, New York)
Interplay of random and structured connectivity in the dynamics of neural networks
10:40-11:00 Coffee break

11:00-11:50 Dynamics of large networks (1)
Luis Carlos Garcia del Molino (Institut Jacques Monod, Paris)
Finite size effects and synchronization in random networks

12:00-13:30 Lunch

13:30-16:00 Dynamics of large networks (2)
13:30-14:20 Srdjan Ostojic (GNT, Ecole normale supérieure, Paris)
Two types of asynchronous activity in excitatory-inhibitory networks of spiking neurons
14:20-15:10 David Hansel (CNPP, Paris Descartes University)
Chaotic rate dynamics
15:10-16:00 Carl van Vreeswijk (CNPP, Paris Descartes University)
Neuronal dynamics in a balanced network with partially bidirectional connectivity
16:00-16:20 Coffee break

16:20- 18:00 Dynamics of large networks (3)
16:20-17:10 Gianluigi Mongillo (CNPP, Paris Descartes University)
Re-organization of spiking activity by synaptic volatility in a cortical network model
17:10-18:00 Rémi Monasson (LPT, Ecole normale supérieure, Paris)
Inferred model of the prefrontal cortex activity unveils task-related cell assemblies and memory replay