

The 7th Paris Area Computational Neuroscience Day

Synaptic plasticity: From receptors to networks

Monday, December 14, 2009 | Université Paris Descartes
45 rue des Saints-Pères, 75006; Salle des thèses

Program

9.00-9.30: Coffee and croissants

Session I: Molecular mechanisms of synaptic plasticity

9.30-10.30: Daniel Choquet (Bordeaux), Single molecule tracking of receptors in and out synapses

10.30-11.00: David Holcman (ENS), Exploring the regulatory mechanisms of synaptic transmission

11.00-11.30: Coffee break

Session II: Spike-timing dependent plasticity (STDP) : Experiments and models

11.30-12.30: Jesper Sjöström (UCL), STDP in neocortical layer-5 pyramidal neurons

12.30-13.00: Michael Graupner (NYU), A bistable model of calcium-dependent synaptic plasticity

13.00-14.30: Lunch

Session III: Functional roles of synaptic plasticity

14.30-15.00: Sami El Boustani (Gif), STDP model with long-term storage

15.00-15.30: Trevor Agus (ENS), Fast, stable learning of random waveforms in the human auditory system and Romain Brette (ENS), Fast learning with slow STDP.

15.30-16.00: Sophie Denève (ENS), Optimal change detection with short term synaptic plasticity

16.00-16.30: Coffee break

Session IV: Synaptic plasticity and network dynamics

16.30-17.00: Jian Liu (Paris Descartes), Embedding multiple trajectories in recurrent neural networks in a self-organizing manner

17.00-17.30: Gianluigi Mongillo (Paris Descartes), Short-term synaptic plasticity underlies multi-stability in balanced excitation-inhibition regimes

17.30-18.30: Guoqiang Bi (Pittsburgh), Synaptic plasticity in self-organizing neuronal circuits

Organized by : Nicolas Brunel, David Hansel and David Holcman

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