

Symposium 15: Synaptic plasticity in physiological contexts

Supported by Scientifica

Theme: Neuronal, glial and cellular mechanisms

Tuesday 11th April, 13:20 – 15:00

Synaptic plasticity is the principle mechanism enabling behavioural adaptation and the encoding of memory. There is a wealth of knowledge on the mechanisms which underpin synaptic plasticity but less understanding for how these processes are engaged in physiological contexts and in particular what neuronal activity patterns are required to engage synaptic plasticity in physiologically relevant scenarios. In this symposium the speakers will explore the role of synaptic plasticity in key brain functions including the formation of neuronal ensembles and regulation of excitatory-inhibitory balance. These processes are critical for the efficient acquisition of new information and if disrupted can lead to a variety of cognitive disorders.

Chair: Dr Jack Mellor (University of Bristol)

Co-chair: Dr Tara Keck (University College London)

Speaker 1: Dr Tara Keck (UCL)

'Synaptic homeostatic mechanisms in mouse visual cortex)

Speaker 2: Professor Thomas Oertner (Hamburg University, Germany)

'Optogenetic STDP: shaping hippocampal networks through temporal correlations)

Speaker 3: Dr Mark Sheffield (Northwestern University, USA)

'Dendrites, plasticity and spatial navigation)

Speaker 4: Dr Jack Mellor (University of Bristol)

'Neuromodulation of dendrites and synaptic plasticity'