

Integrating Hebbian and homeostatic plasticity

Tuesday 19 – Wednesday 20 April 2016 | The Royal Society, London

Organised by Professor Kevin Fox FMedSci and Professor Michael Stryker

THE
ROYAL
SOCIETY

Tuesday 19 April 2016				Wednesday 20 April 2016			
Session 1: Computational modelling and theoretical considerations Chair John Lisman		Session 2: Cellular and synaptic mechanisms Chair Gina Turrigiano		Session 3: <i>In vivo</i> plasticity I Chair Hey-Kyoung Lee		Session 4: <i>In vivo</i> plasticity II Chair Daniel Feldman and Mark Hübener	
09.00	Welcome by Royal Society and Kevin Fox			09.00	Introduction by Michael Stryker		
09.05	Taro Toyozumi Spine-size fluctuations enable stable cell assembly learning in recurrent circuit models	13.30	David Stellwagen Cocaine-induced synaptic plasticity in the striatum: Hebbian and homeostatic mechanisms	09.05	Gina Turrigiano Firing rate homeostasis is gated by sleep/wake states	13.50	John Lisman LTP, STP, and scaling: electrophysiological, biochemical, and structural mechanisms
09.30	Discussion	14.00	Discussion	09.30	Discussion	14.15	Discussion
09.45	Brent Doiron Homeostasis and assembly formation in spiking networks	14.15	Philip Haydon Cholinergic modulation of NMDA receptor function mediated through an astrocyte intermediate	09.45	Michael Stryker Hebbian and homeostatic plasticity and the role of TNF- α in the visual cortex	14.30	Frank Sengpiel Effects of dark exposure on mouse visual cortex plasticity
10.15	Discussion	14.45	Discussion	10.10	Discussion	14.55	Discussion
10.30	Coffee	15.00	Tea	10.25	Coffee	15.10	Tea
11.00	Mark van Rossum Network stability and neuronal homeostasis	15.30	Lu Chen Synaptic signalling of retinoic acid	10.50	Kevin Fox Diversity of homeostatic and Hebbian plasticity properties in cortical neurones	15.30	Tobias Rose Cell-specific restoration of stimulus preference after monocular deprivation in visual vortex
11.30	Discussion	16.00	Discussion	11.15	Discussion	15.55	Discussion
11.45	Wulfram Gerstner Homeostatic control during Hebbian changes: a question of time scales	16.15	Hey-Kyoung Lee Homeostatic plasticity of inhibition	11.30	Daniel Feldman Rapid homeostasis by control of inhibition	16.10	Taro Toyozumi and Tara Keck General summary and discussion
12.15	Discussion	16.45	Discussion	11.55	Discussion		
		17.00	Poster session and drinks reception	12.10	Tara Keck Homeostatic mechanisms in the mouse visual cortex <i>in vivo</i>		
				12.35	Discussion		
12.30	LUNCH	18.30	CLOSE	12.50	LUNCH	17.00	CLOSE

Correct as of 05/04/16 – subject to change