

# Dendrites, Neurones and Networks Workshop

## Monday 7 - Thursday 10 June 2010

Organisers: Magnus Richardson, Yulia Timofeeva, Nicolas Brunel (Paris), Paul Bressloff (Oxford)

All Talks to be held in Lecture Room MS.03, Mathematics Institute • Zeeman Building • University of Warwick

## Programme

### Monday 7 June:

10:00	Registration in room B1.37
	Coffee in the Mathematics Institute Common Room
11:00	<b>Mark van Rossum</b> (Edinburgh) <i>Synaptic Learning Rules: A Drunk Man's Walk to Remember</i>
11:45	<b>Nicholas Brunel</b> (University Paris Descartes) <i>Spike-timing and Firing-rate Dependent Plasticity as Calcium-induced Transitions in a Bistable Synaptic Model</i>
12:30	Lunch in the Mathematics Institute Common Room
14:00	<b>Stephen Coombes</b> (Nottingham) <i>Neuronal Spike-train Responses in the Presence of Threshold Noise: First Passage Times, Stochastic Mode-locking and Coding</i>
14:45	<b>Vincent Hakim</b> (ENS, Paris) <i>Neuron Spike Rate Responses: What Are They, What Are They Useful For and What Do They Depend On?</i>
15:30	Tea in the Mathematics Institute Common Room
16:00	<b>Benjamin Lidner</b> (MPI for Complex Systems) <i>Stochastic Neural Activity</i>
16:45	Poster Session
18:00	Dinner in the Mathematics Institute Common Room

### Tuesday 8 June:

09:30	<b>Alla Borisjuk</b> (University of Utah) <i>Role of Dendrites in Noise-induced Synchronization</i>
10:15	<b>Steven Cox</b> (Rice University) <i>Toward a Minimal Model of a Large Spiking Cell</i>
11:00	Coffee in the Mathematics Institute Common Room
11:30	<b>Bruce Graham</b> (University of Stirling) <i>The Pyramidal Cell as a Multi-laminar Computational Unit</i>
12:15	Lunch in the Mathematics Institute Common Room
14:00	<b>Wulfram Gerstner</b> (EPFL, Lausanne) <i>A Model of Synaptic Plasticity Spanning Scales from Dendrites to Networks</i>
14:45	<b>Walter Senn</b> (Bern) <i>Spatio-temporal Credit Assignment in Population Learning</i>
15:30	Tea in the Mathematics Institute Common Room
16:00	<b>Frances Skinner</b> (Toronto) <i>Interneurons in Hippocampus: Modeling Their Distinct Natures</i>
18:45	Mini buses leaving from Radcliffe House for Conference Dinner at Coombe Abbey

**Wednesday 9 June:**09:30 **Rasmus Petersen** (Manchester)10:15 **Kenneth Harris** (Imperial)

11:00

11:30 **Misha Tsodyks** (Weizmann Institute)

12:15

14:00 **Carson Chow** (NIH)14:45 **Brent Doiron** (Pittsburgh)

15:30

16:00 **Ila Fiete** (Texas at Austin)16:45 **David Hansel** (Paris Descartes)

17:30

18:30

*Coding Sensory Signals in the Whisker Thalamus**How do Neurons Work Together? Lessons from Auditory Cortex***Coffee in the Mathematics Institute Common Room***Cortical Information Processing with Population Spikes***Lunch in the Mathematics Institute Common Room***Effective Activity Equations for Spiking Neural Networks**Correlation Shaping in the Nervous System***Tea in the Mathematics Institute Common Room***The How, What and Why of the Grid Cell Code for Animal Location**Network Mechanisms of Visuo-spatial Working Memory*

Poster Session

**Dinner in the Mathematics Institute Common Room****Thursday 10 June:**09:30 **Arnd Roth** (UCL)10:15 **Paul Bressloff** (Oxford)

11:00

11:30 **Caroline Geisler** (Rutgers)12:15 **Gaute Einevoll** (Norwegian University  
of Life Sciences)

13:00

*Energy-efficient Propagation of Action Potentials**Cable Theory of Protein Receptor Trafficking in a Dendritic Tree***Coffee in the Mathematics Institute Common Room***Hippocampal Place Cell Assemblies Generate Oscillating Population  
Activity at Theta Frequency**What Can We Learn from Multielectrode Recordings of Extracellular  
Potentials in the Brain?***Conference Closes****Followed by Lunch in the Mathematics Institute Common Room**

For further information please see:

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