

# Computational & Systems Neuroscience

## Opening Lecture

WEDNESDAY 3/24/2004, 7:30 PM

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
1	Abbott	Cascades and multi-timescale plasticity	50

## Session 1

THURSDAY 3/25/2004, 9:00 AM

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
2	Meister	Adaptation in the neural code of the retina	40
3	Brainard	Computational models of human color constancy	18
4	Deneve	Bayesian inference with recurrent spiking networks	18
5	Newsome	Decision-making and the neural representation of "experienced value"	40
6	Niv	The effects of uncertainty TD learning	18

## Session 3

THURSDAY 3/25/2004, 7:30 PM

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
109	Pillow	Maximum likelihood estimation of a stochastic integrate-and-fire neural encoding	18
110	Rust	Unexpected spatio-temporal structure in V1 simple and complex cells revealed by spike-triggered covariance	18
111	Priebe	Excitatory and inhibitory synaptic inputs to direction-selective simple cells of cat visual cortex	18
112	Hirsch	Intracellular analyses of receptive field class and laminar position in the cat's visual cortex	18
	Sejnowski	Spike time patterns (TITLE ONLY)	40

## Session 4

FRIDAY 3/26/2004, 9:00 AM

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
	Hopfield	Encoding for computation—Recognizing brief dynamical patterns by exploiting effects of weak subthreshold rhythms (TITLE ONLY)	40
113	Wang	Neural coding of time-varying signals in auditory cortex	18
114	Wills	Simultaneous multiple recall with spiking neurons	18
	Romanski	Processing of communication stimuli by the primate prefrontal cortex (TITLE ONLY)	18
115	Woolley	Linear models of auditory tuning in songbird neurons reveal efficient coding of natural sounds	18
	Gardner	Computational neuroinformatics—Algorithms for information transmission in cortical neuronal networks	5

**Session 6**

FRIDAY 3/26/2004, 7:30 PM

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
223	Wolpert	Uncertainty in sensorimotor control	40
224	Wyder	A model for context-dependent selection of visuo-motor maps	18
225	Pesaran	Predicting action during free choice—Reach plans in posterior parietal cortex	18
	Tank	Persistent activity in the oculomotor neural integrator (TITLE ONLY)	40
226	Boyden	The contribution of inverse plasticity mechanisms to cerebellum-dependent learning	18

**Session 7**

SATURDAY 3/27/2004, 9:00 AM

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
227	Bialek	Efficient representation of predictive information	40
228	Sharpee	Receptive fields in cat primary visual cortex obtained as most informative dimensions for natural stimulus ensemble	18
229	Herz	Disentangling sensory transduction chains in vivo	18
230	Schneidman	Redundant, independent and synergistic symbols in population neural code	18
231	Latham	Yet another analysis of the role of correlations in the neural code	18

**Session 8**

SATURDAY 3/27/2004, 2:00 PM

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
	Wilson	Encoding and retrieval of sequence memory in the hippocampus (TITLE ONLY)	40
232	Frank	New places and new representations—Place field formation and stabilization in the hippocampus	18
233	Quirk	Local competitive interactions in rat orbitofrontal cortical microcircuits during a	18
	Laurent	Olfactory receptor neurons—Then what? (TITLE ONLY)	40

**Session 9**

SUNDAY 3/28/2004, 9:00 AM

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
	Bonhoeffer	Competitive interactions between potentiated synapses (TITLE ONLY)	40
234	Fiete	Rapid learning by reinforcement of variation due to injected noise in a spiking neural network	18
	Johnston	Dendritic K <sup>+</sup> channels in hippocampal pyramidal neurons (TITLE ONLY)	40