ACCN 2010 – Academic Schedule

(as of August 9, 2010)

WEEK ONE: John Rinzel

Monday 2nd August		
9:30 – 11:00	Alex Thomson	Introduction to synaptic mechanisms and synaptic circuitry
11:30 – 13:00	John Rinzel	Hodgkin-Huxley and the nonlinear dynamics of neuronal excitability
15:00 – 16:00		Software previews and introduction of tutors
16:00 – 18:00		Discussions between students and tutors
Evening		Discussions between tutors and director

Tuesday 3rd August		
9:30 – 11:00	Alex Thomson	Diversity and specificity in cortical circuits
11:30 – 13:00	Dieter Jaeger	Biophysical models of neuronal excitability and synaptic integration
15.00 – 16:00	Sukbin Lim	XPP tutorial
16:00 – 17:00	Farzad Farkhooi	PYTHON tutorial
17:00 – 18:30 + evening		Computational exercises

Wednesday 4th August		
9:30 – 11:00	Idan Segev	Dendritic integration and cable theory
11:30 – 13:00	Dieter Jaeger	Dynamic clamping: virtual currents and synapses
15:00 – 16:00	Shaul Druckmann	NEURON tutorial
16:00 – 17:00	Thomas Fucke	NEST tutorial
17:00 – 18:30		Computational exercises
19:00 – 20:00	Idan Segev	Emerging Ethical Issues in Modern Brain Research (Neuroethics)

Thursday 5th August		
9:30 – 11:00	Erik De Schutter	Modeling biochemical reactions and diffusion: from simple to detailed
11:30 – 13:00	Magnus Richardson	From Hodgkin-Huxley to integrate-and-fire models
Afternoon	Shaul Druckmann	MATLAB tutorial
		Preparation of project presentation

Friday 6th August		
9:30 – 11:00	Mark van Rossum	Synaptic plasticity
11:30 – 13:00	Erik De Schutter	Data-driven modeling of dendritic bifurcations and growth
Afternoon	All students	Short (2 minute) presentation of all projects
Evening		Party organized by the students

WEEK TWO: Carl van Vreeswijk

Monday 9th August		
9:30 – 11:00	Mark van Rossum	Short-term synaptic plasticity and cortical processing.
11:30 – 13:00	John Rinzel	Firing rate models for slow network rhythms
15:00 – 16:00	Shaul Druckmann	NEURON tutorial # 2

Tuesday 10th August		
9:30 – 11:00	Carl van Vreeswijk	Introduction to Network Dynamics
11:30 – 13:00	Ad Aertsen	Spiking dynamics in cortical network models
15:00 – 16:30	Carl van Vreeswijk	Tutorial on the Fokker-Planck Equation

Wednesday 11th August		
9:30 – 11:00	Gianluigi Mongillo	Noisy Network States in the Balanced Regime
11:30 – 13:00	Fred Wolf	Modeling orientation maps
15:00 – 17:00 **(sharp!)**	*Lab Visit* (please sign up)	Boucsein lab, Biology Institute II/III, Schänzle Street 1

Thursday 12th August		
9:30 – 11:00	Ad Aertsen	Brain Machine Interface
11:30 – 13:00	Abigail Morrison	Development of functional circuits in spiking neuronal networks
15:00 – 16:30	Carl van Vreeswijk	Tutorial on Stochastic Point-Processes

Friday 13th August		
9:30 – 11:00	Fred Wolf	The effect of spike initiation on cortical dynamics
11:30 – 13:00	Gianluigi Mongillo	Multi-stability in Balanced Networks
Evening		Party organized by the students

WEEK THREE: Peter Latham

Monday 16th August		
9:30 – 11:00	Peter Latham	Intro / Overview of Computational Neuroscience
11:30 – 13:00	Kenji Doya	Reinforcement learning and the basal ganglia

Tuesday 17th August		
9:30 – 11:00	Kenji Doya	Meta-parameters and neuromodulators
11:30 – 13:00	Jonathan Pillow	Encoding and decoding of neural population activity using generalized linear models

Wednesday 18th August		
9:30 – 11:00	Jonathan Pillow	Neural encoding models and likelihood-based methods for spike trains
11:30 – 13:00	Jeff Beck	Population Coding I

Thursday 19th August		
9:30 – 11:00	Jeff Beck	Population Coding II
11:30 – 13:00	Zhaoping Li	Efficient coding to explain the visual receptive fields of the retina and V1

Friday 20th August		
9:30 – 11:00	Zhaoping Li	Bottom-up salency map as a role for the primary visual cortex
11:30 – 13:00	Peter Latham	Requiem for the spike
Evening		Party organized by the students

WEEK FOUR: Yifat Prut

Monday 23rd August		
9:30 – 11:00	Matthew Tresch	Distributed control of movement
11:30 – 13:00	Yifat Prut	Descending control of movement

Tuesday 24th August		
9:30 – 11:00	Ranulfo Romo Trujillo	Neural correlates of subjective sensory experience
11:30 – 13:00	Matthew Tresch	Simplifying control trategies for the control of movement

Wednesday 25th August		
9:30 – 11:00	Carl van Vreeswijk	T.B.A.
11:30 – 13:00	Ranulfo Romo Trujillo	Decoding decision making across cortex
Afternoon		Project work

Thursday 26th August		
		Project work

Friday 27th August		
		Project presentations
Evening		Party organized by the students