

## SATURDAY JULY 19, 2008

13:00 – 23:00 Registration, lobby

17:00 – 23:00 Opening reception, Crystal Ballroom

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## SUNDAY JULY 20, 2008 (Mayfair)

8:15           **Registration (Mezzanine)**

9:00           **Welcome:** Ranu Jung (President) and Patrick Roberts (Local Organizer)

9:10   L1    **Invited Talk: John Rinzel**  
*Alternating perceptions of ambiguous scenes: What's out there?*

10:10          **Break**

### *System Dynamics*

10:40   O1    **Featured Talk:** Steven Schiff, Tim Sauer  
*Kalman filter control of a model of spatiotemporal cortical dynamics*

11:20   O2    Miriam Zacksenhouse, Mikhail Lebedev, Miguel Nicolelis  
*Bin-width selected for brain-machine interfaces optimizes rate decoding*

11:40   O3    Aonan Tang, Christopher Honey, Jon Hobbs, Alexander Sher, Alan Litke, Olaf Sporns, John Beggs  
*Information flow in local cortical networks is not democratic*

12:00          **Lunch Break** (*Program Committee meeting*)

14:00   L2    **Invited Talk: Upinder Bhalla**  
*Modules in molecular memory*

15:00          **Break**

### *Network Properties*

15:30   O4    **Featured Talk:** David Boothe, Avis Cohen, Todd Troyer  
*Parameter dependent changes in strength of phase locking in a stochastic simulated central pattern generator*

- 16:10 O5 Georgi Medvedev  
*Noise-induced bursting in stochastic models of single cells and electrically coupled ensembles*
- 16:30 O6 Arthur Leblois, David Perkel  
*Local inhibition shapes afferent excitatory drive of output neurons in the songbird basal ganglia network*
- 16:50 **Funding Opportunities (D. Glanzman, K. Whang, Y. Liu)**
- 17:20-18:20 *Board Meeting*

### **Dinner Break**

### 19:00-22:00 **Poster Session I (Parliament and Crystal)**

- P1-P23 Network Properties  
P24-P40 System Dynamics  
P41-P58 Cellular Mechanisms  
P59-P64 Anatomy and Morphology  
P65-P72 Learning  
P73-P80 Behavior

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### **MONDAY JULY 21, 2008 (Mayfair)**

- 8:30 **Registration (Mezzanine)**
- 9:00 Announcements:
- 9:10 L3 **Invited Talk: Avrama Blackwell**  
*Signaling pathways underlying striatal synaptic plasticity and reward learning*
- 10:10 **Break**

### ***Cellular Mechanisms***

- 10:40 O7 **Featured Talk: Darrell Haufler**, France Morin, Jean-Claude Lacaille, Frances Skinner  
*Characterizing the transient  $K^+$  current contribution to subthreshold membrane potential oscillations in a hippocampal interneuron model*
- 11:20 O8 Natalia Toporikova, Maurice Chacron  
*One cell, two bursting mechanisms. In vivo conditions change the in vitro burst in pyramidal cells of the ElectroLateral Lobe (ELL) of electric fish.*

11:40 O9 John Cressman, Ghanim Ullah, Jokubas Ziburkus, Steven Schiff, Ernest Barreto  
*Ion concentration dynamics: Mechanisms for bursting and seizing*

12:00 **Lunch Break** (*Board meeting*)

14:00 L4 **Special Invited Lecture: Erik De Schutter**  
*Computational Neuroscience and Systems Biology: the Past, the Now and the Future*

15:00-18:00 **Poster Session II (Parliament and Crystal)**

P81-P94 Databases and Software  
P95-P105 Plasticity and Development  
P106-P110 Synaptic Mechanisms and Signal Transduction  
P111-P130 Information Coding  
P131-P152 Synchronization and Oscillation  
P153-P158 Functional Imaging and EEG

19:00 **Banquet**

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**TUESDAY JULY 22, 2008 (Mayfair)**

8:30 **Registration (Mezzanine)**

9:00 Announcements:

9:10 L5 **Invited Talk: Victor Derkach**  
*CaM kinases and AMPA receptor subunit recomposition in hippocampal synaptic plasticity*

10:10 **Break**

***Synaptic Mechanisms***

10:40 O10 Grier Halmes, Erik Ulfhielm, Jeanette Hellgren Kotaleski, Jean-Pierre Rospars  
*Modeling of the receptor, G-protein and effector reactions in vertebrate olfactory receptor neurons*

11:00 O11 William Gibson, Les Farnell, Max Bennett  
*A neural-glia network for modeling spreading depression in cortex*

11:20 O12 Risa Lin, Svenja Metz, Dieter Jaeger  
*Synaptic integration in the deep cerebellar nuclei: Comparing dynamic clamp results with a computer model of somatic or distributed dendritic input*

11:40           **General Business Meeting**

12:00           **Lunch Break**

14:00 L6       **Invited Talk: Akihiro Kusumi**  
*Single-molecule tracking of raft-based signal transduction: a system of digital signal transduction?*

15:00           **Break**

***Learning and Plasticity***

15:30 O13     **Featured Talk: Claudia Clopath, Andre Longtin, Gerstner Wulfram**  
*An online Hebbian learning rule that performs Independent Component Analysis*

16:10 O14     Matthieu Gilson, David Grayden, Doreen Thomas, Leo van Hemmen, Anthony Burkitt  
*Symmetry breaking induced by spike-timing-dependent plasticity in the presence of recurrent connections*

16:30           **Workshop Information, Awards, Announcement of next year's meeting, Closing**

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**WEDNESDAY JULY 23, 2008**

8:30           **Workshop Registration**

9:00-5:00     Workshops

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**THURSDAY JULY 24, 2008**

8:30           **Workshop Registration**

9:00-5:00     Workshops