

2006 WORKSHOP SCHEDULE

Advanced Methods of Neurophysiological Signal Analysis & System Modeling

FRIDAY - JUNE 9, 2006

OPENING SESSION

4:30 pm Speakers Welcome

5:00 pm *Analysis of Multi-Unit Recordings from Neuronal Ensembles*

Vasilis Z. Marmarelis
University of Southern California

5:30 pm *Neural-Metabolic Coupling in the Central Visual Pathway*

Ralph D. Freeman
University of California, Berkeley

6:00 pm *Modeling of Neuronal Activity and Prosthesis in the Hippocampus*

Theodore W. Berger
University of Southern California

6:30 pm OPEN DISCUSSION

7:00 pm RECEPTION

SATURDAY - JUNE 10, 2006

8:00 am REGISTRATION/CONTINENTAL BREAKFAST

Marina Beach Marriott

8:30 am Opening Remarks

Vasilis Z. Marmarelis
University of Southern California

8:45 am *Wiener-Kernel Analysis of Cochlear Nonlinearities*

Mario A. Ruggero
Northwestern University

9:15 am *Population Dynamics in the Primary Visual Cortex*

Dario Ringach
University of California, Los Angeles

9:45 am *Application of the State-Space Model Paradigm to Neuroscience Data Analysis*

Emery N. Brown
Harvard Medical School/MIT Division
of Health Sciences and Technology

SATURDAY - JUNE 10, 2006

CONTINUED

10:15 am Break

10:30 am *Dejittered Spike-Conditioned Stimulus Kernels Yield Improved Estimates of Neuronal Feature Selectivity and Spike-Timing Precision*

John P. Miller
Montana State University

11:00 am *The Contribution of Spike Threshold to Feature Selectivity, Spike Information Content and Spiking Precision*

Monty A. Escabi
University of Connecticut

11:30 am BREAK

11:45 am *Multi-Scale Recording from Human Epileptogenic Brain*

Gregory A. Worrell
Mayo Clinic

12:15 pm *Contrast Nonlinearities and Synergy of Feature Selectivity in Primary Auditory Cortex Revealed by Most Informative Dimensions*

**Craig A. Atencio,
T. Sharpee & C. Schreiner**
University of California, San Francisco

12:45 -1:30 pm LUNCH

1:30 pm *The Spectral Properties of Retinal Discharge Noise and its Impact on Visual Information Transmission*

Christopher L. Passaglia
Boston University

2:00 pm *Non-Parametric Modeling of Neural Point-Processes: Spiking Activity as a Function of Spiking History, Neural Ensemble and Stimuli-Behavioral Covariates*

Wilson Truccolo-Filho
Brown University

2:30 pm *The Effects of Spike Threshold and Saturation on the Recovering Neuronal Transfer Functions*

Yuguo Yu
Yale University School of Medicine

3:00 pm BREAK

3:15 pm *Probability Maps of Interictal Spike Spread*

**Robert J. Scabassi,
A. Abla, L.-S. Pon & M. Sun**
University of Pittsburgh

3:45 pm *Boolean Modeling of Neuronal Systems*

Vasilis Z. Marmarelis
University of Southern California

4:15 pm Commentary

Edwin Lewis
University of California, Berkeley

4:30 pm OPEN DISCUSSION

5:00 pm ADJOURNMENT

Biomedical Simulations Resource (BMSR)
University of Southern California

Workshop on

**ADVANCED METHODS OF NEUROPHYSIOLOGICAL
SIGNAL ANALYSIS & SYSTEM MODELING**

June 9-10, 2006

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