

SENSORY CODING AND THE NATURAL ENVIRONMENT

Poster Session

General Information.

The posters are in Salone Pascoli, in the same room that the lectures are held. All posters will be viewed for two days.

Session IA and IB are on Monday and Tuesday from 4 to 5:30 PM. Posters can be left in the room for informal viewing after dinner.

Session IIA and IIB are on Wednesday and Thursday from 4 to 5:30 PM. Posters can be left in the room for informal viewing after dinner.

Session IA. Sensory Systems: Audition, Olfaction, Somatosensation.

STEPHEN DAVID UNIVERSITY OF MARYLAND	Relevant nonlinear mechanisms for processing natural sounds in auditory cortex
TAFFETA ELLIOTT UNIVERSITY OF CALIFORNIA., BERKELEY	Spectral and temporal modulations required for speech comprehension and speaker gender identification
MATTHIAS FRANZ UNIVERSITY OF APPLIED SCIENCES AT KONSTANZ	Bats can use echolocation calls for individual recognition
GARRETT GREENE TRINITY COLLEGE	Sparse Coding of Zebra Finch Song
RICHARD HAHNLOSER ETH ZURICH	Kalman Receptive Fields
PAVEL ITSKOV SISSA	Neuronal representation of the tactile categorization task in the CA1 region of the hippocampus
LUBOMIR KOSTAL CZECH ACADEMY OF SCIENCES	Efficient Olfactory Coding in Moth Sexual Pheromone Reception
ARMIN LAK COGNITIVE NEUROSCIENCE SECTOR	Tuned response of neurons in rat somatosensory cortex to stimuli containing amplitude noise
DAVID SCHNEIDER COLUMBIA UNIVERSITY	Neural discrimination of complex sounds by single neurons in the songbird auditory midbrain

Session IB. Statistics of Natural Scenes

DAVID ATTEWELL UNIVERSITY OF BRISTOL	How much do natural images tell us about reflectance in the real world?
MARIA GEFFEN ROCKEFELLER UNIVERSITY	Statistics of natural soundscapes.
IGOR JURICEVIC UNIVERSITY OF NEVADA, RENO	Color appearance and adaptation to natural color environments
VALERO LAPARRA UNIVERSITAT DE VALENCIA	Spatial Masking and Color Adaptation from Non-Linear PCA
FABIAN SINZ MAX PLANCK INSTITUTE FOR BIOLOGICAL CYBERNETICS	Redundancy Reduction in Natural Images - Quantifying the Effect of Orientation Selectivity and Contrast Gain Control
GREG STEPHENS PRINCETON UNIVERSITY	Thermodynamics of natural images
LILI TCHEANG INSTITUTE OF COGNITIVE NEUROSCIENCE	Spatial and Non-spatial Memory Components of Scene Processing

Session IIA. Sensory Systems: Vision.

GAELE DESBORDES GEORGIA INSTITUTE OF TECHNOLOGY	Invariance of spike timing precision within neural populations in the early visual system
EIZABURO DOI NYU	Generalizing information maximization to enable direct comparison to retinal receptive fields
MATTHIAS KASCHUBE LEWIS-SIGLER INSTITUTE	Encoding motion of visual stimuli in primary visual cortex
SELIM ONAT UNIVERSITY OSNABRUECK	Processing of Natural Stimuli and Long-Range Interactions in Cat Visual Cortex Investigated with Voltage Sensitive Dye Imaging
NESTOR PARGA UNIVERSIDAD AUTONOMA DE MADRID	From scale invariance properties of natural visual stimuli to the receptive fields of simple cells.

Session IIB. Perceptual and Neural Models.

SARAH ALLRED UNIVERSITY OF PENNSYLVANIA	Bayesian model of lightness perception
MARK BRADY NORTH DAKOTA STATE UNIVERSITY	Cues for Estimating Local Contrast Causation
JAMES ELDER YORK UNIVERSITY	A geometric model predicts pattern selectivity of V1 neurons
SEBASTIAN GERWINN MAX PLANCK INSTITUTE FOR BIOLOGICAL CYBERNETICS	Bayesian decoding of populations of integrate-and-fire neurons
MICHAEL GUTMANN HELSINKI INSTITUTE FOR INFORMATION TECHNOLOGY	Learning reconstruction- and prediction-based representations of speech with a population of spiking neurons
TIMM LOCHMANN COLLEGE DE FRANCE	Approximate Online Inference with Spiking Neurons and Divisive Inhibition
SHYAM DIWAKAR MUKUNDANUNNY UNIVERSITY OF PAVIA	Computational modeling of local field potentials predicts activation patterns and plasticity in the cerebellar circuit
LAURENT PERRINET INCM/CNRS	Role of homeostasis in the efficiency of sparse hebbian learning
ANTONIO TORRALBA MIT	Small codes and large databases
EKATERINA VINNIK SISSA/ISAS	Neural basis of continuity illusion with complex sounds.