

Program - MODVIS 2012

Session 1: Thursday, May 10th 9:00 a.m - 12:00 p.m.

Mid- and high-level vision

Moderator: Jeff Mulligan

9:00 a.m. On Grouping and Formlets: The Role of Shape in Perceptual Organization
James Elder

9:25 a.m. From 3D Vision to Object and Scene Attention, Search, Learning, and Recognition
Stephen Grossberg

9:50 a.m. From theory to images: Problems associated with extracting image velocity from real image sequences
John A. Perrone

10:15 a.m. Coffee break

10:45 a.m. Assessment of the optimality of eye movement behavior during face recognition using an ideal foveated Bayesian observer model
Matthew F. Peterson & Miguel P. Eckstein

11:10 a.m. A neural population model for visual pattern detection
Robbe L.T. Goris, Tom Putzeys, Johan Wagemans, and Felix Wichmann

11:35 a.m. Lazy neurons for good shape - computational modeling of contour completion in a primary cortical space
Ohad Ben-Shahar and Guy Ben-Yosef

12:00 p.m. Lunch on your own

Session 2: Thursday, May 10th 4:00 p.m. - 7:15 p.m.

Low-level vision

Moderator: Zygmunt Pizlo

4:00 p.m. Modelling individual differences in contrast sensitivity
Daniel H. Baker

4:25 p.m. Bayesian Signal Detection Theory
Alan A. Stocker

4:50 p.m. Analysis of Difference-of-Gaussians Filters in Terms of Directly Observable Parameters
Davis Cope, Barbara Blakeslee, Mark E. McCourt

5:15 p.m. Coffee break

5:35 p.m. Retinex-like Cortical Color Computations Under the Control of Top-Down Processes
Michael E. Rudd

6:00 p.m. The chunking model of frequency and probability distortion
Hang Zhang and Laurence T. Maloney

6:25 p.m. A model of amblyopia with implications for treatment
Benjamin T. Backus

6:50 p.m. Visual coding of local orientation
Michael S. Landy

Session 3: Friday, May 11th 9:00 a.m. - 12:30 p.m.

Neural Models

Moderator: Jeff Mulligan

9:00 a.m. Modeling Population Receptive Field Properties, Visual Field Map Structure, and Inter-Area Sampling from fMRI
Benjamin Harvey and Serge Dumoulin

9:25 a.m. Computational Analysis of the Temporal Primitives of Neural Communication
Christopher W. Tyler

9:50 a.m. Figure-Ground Organization and Selective Attention: A Neural Model
Rudiger von der Heydt

10:15 a.m. Coffee break

10:35 a.m. Quantitative, zero parameter, prediction from the V1 saliency hypothesis and its quantitative match to experimental data
Li Zhaoping and Li Zhe

11:00 a.m. A Model of LGN Cell Response Incorporating Contrast Gain Control
Mark E. McCourt, Barbara Blakeslee, and Davis Cope

11:25 a.m. Modeling perceptual variations by neural decoding
Qasim Zaidi and Elias Cohen

11:50 a.m. A Bayesian Model for Disparity Driven Object Motion
Anshul Jain and Qasim Zaidi

12:15 p.m. Short business meeting