

MODVIS 2015 Preliminary Program

Wednesday, May 13th

SESSION 1: Motion, Attention, and Eye Movements

- 9:00-9:05 Welcome
- 9:05-9:30 Guido Maiello, Manuela Chessa, Peter J. Bex, Fabio Solari, *A space-variant model for motion interpretation across the visual field*
- 9:30-9:55 N.V. Kartheek Medathati, Pierre Kornprobst, Guillaume Masson, Manuela Chessa, Fabio Solari, *Adaptive motion pooling and diffusion for optical flow*
- 9:55-10:20 Giulio Sandini, Nicoletta Noceti, Alessandra Sciutti, Francesco Rea, Alessandro Verri, Francesca Odone, *Modeling visual features to recognize biological motion: a developmental approach*
- 10:20-10:40 BREAK
- 10:40-11:05 Frederik Beuth, Fred H. Hamker, *Object recognition and visual search with a physiologically grounded model of visual attention*
- 11:05-11:30 Ziad M. Hafed, Xiaoguang Tian, *A model of repetitive microsaccades, coupled with pre-microsaccadic changes in vision, is sufficient to account for both attentional capture and inhibition of return in posner cueing*
- 11:30-11:55 Yalda Mohsenzadeh, J. Douglas Crawford, *A computational model to account for dynamics of spatial updating of remembered visual targets across slow and rapid eye movements*
- 12:00-2:00 Lunch on your own

SESSION 2: Shape and Form

- 2:00-2:25 S.P. Arun, R.T. Pramod, *Can computational models of shape explain object perception?*
- 2:25-2:50 Steven A. Cholewiak, Romain Vergne, Benjamin Kunsberg, Steven W. Zucker, Roland W. Fleming, *Appearance controls interpretation of orientation flows for 3D shape estimation*
- 2:50-3:15 Vicky Froyen, Qasim Zaidi, *Formal aspects of non-rigid-shape-from-motion perception*
- 3:15-3:40 Seha Kim, Jacob Feldman, Manish Singh, *Bayesian modeling of 3D shape inference from line drawings*
- 3:40-4:00 BREAK
- 4:00-4:25 Terry Kwon, Kunal Agrawal, Yunfeng Li, Zygmunt Pizlo, *Spatially-global integration of closed contours by means of shortest-path in a log-polar representation*
- 4:25-4:50 Michael Teichmann, Fred H. Hamker, *A Recurrent multilayer model with Hebbian learning and intrinsic plasticity leads to invariant object recognition and biologically plausible receptive fields*
- 4:50-5:15 Wyeth Bair, Dina Popovkina, Abhishek De, and Anitha Pasupathy, *Modeling Shape Representation in Area V4*
- 5:15-5:40 Harald Ruda, Gennady Livitz, Guillaume Riesen, Ennio Mingolla, *Computational*

modeling of depth- ordering in occlusion through accretion or deletion of texture

Thursday, May 14th

SESSION 3: Binocular Vision and Stereo

- 9:00-9:25 Junkyung Kim, David A. Mély, Thomas Serre, *A critical evaluation of computational mechanisms of binocular disparity processing*
- 9:25-9:50 Alexander Priamikov, Vikram Narayan, Bertram E. Shi, Jochen Triesch, *The role of contrast sensitivity in the development of binocular vision: a computational study*
- 9:50-10:15 Pamela M. Baker, Wyeth Bair, *A Binocular Model for Motion Integration in MT Neurons*
- 10:15-10:40 BREAK
- 10:40-11:05 Martin Lages, Suzanne Heron, *Binocular 3D motion perception as Bayesian inference*
- 11:05-11:30 Aaron Michaux, Zygmunt Pizlo, *Two correspondence problems easier than one*
- 11:30-11:55 Business meeting
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- 12:00-2:00 Lunch on your own

SESSION 4: Theory

- 2:00-2:25 Stanley Klein, *The psychophysics of metacognition and meta d'*
- 2:25-2:50 Jonas Kubilius, Johan Wagemans, Hans P. Op de Beeck, *A conceptual framework of computations in mid-level vision*
- 2:50-3:15 Wei Ji Ma, Ronald van den Berg, *Testing the Bayesian confidence hypothesis*
- 3:15-3:40 David A. Mély, Thomas Serre, *Towards a unified computational model of contextual interactions across visual modalities*
- 3:40-4:00 BREAK
- 4:00-4:40 KEYNOTE: Sven Dickinson, *Perceptual grouping using superpixels*
- 4:40-4:50 BREAK
- 4:50-5:15 John K. Tsotsos, *Putting saliency in its place*
- 5:15-5:40 Tadamasawa Sawada, *A signal detection experiment with limited number of trials*
- 5:40-6:05 Hang Zhang, Laurence T. Maloney, *The bounded log-odds model of frequency and probability distortion*
- 6:05-6:30 Fillipe Souza, Sudeep Sarkar, Anuj Srivastava, Jingyong Su, *Video event understanding with pattern theory*

Friday, May 15th

SESSION 5: Early Vision

- 9:00-9:25 Albert J. Ahumada, Andrew B. Watson, *A linearized model for flicker and contrast thresholds at various retinal illuminances*
- 9:25-9:50 David H. Foster, Kinjiro Amano, Sérgio M C Nascimento, *Time-lapse statistics of cone signals from natural scenes*
- 9:50-10:15 Michael E. Rudd, *'Edge' integration explains contrast and assimilation in a gradient lightness illusion*
- 10:15-10:40 **BREAK**
- 10:40-11:05 Karl Zipser, Stella X. Yu, Bruno A. Olshausen, *Figure-ground organization emerges in a deep net with a feedback loop*
- 11:05-11:30 Corey M. Ziemba, Robbe L.T. Goris, J Anthony Movshon, Eero P. Simoncelli, *Characterizing receptive field selectivity in area V2*
- 11:30-11:55 Lauren Barghout, *Image segmentation using fuzzy-spatial taxon cut*
- 11:55-12:00 Closing remarks