

Fall Vision Meeting, 2007

in cooperation with the Optical Society of America

September 16 - 19, 2007

Berkeley, California, USA

Fall Vision Meeting (FVM) Abstracts were published in the Journal of Vision

<http://www.journalofvision.org/7/15/>

Fall Vision Meeting, 2007: Abstracts

The [Fall Vision Meeting Meeting](#) was held September 16 - 19, 2007, in Berkeley, California in cooperation with the [Optical Society of America](#). The following are the abstracts of that meeting. [ARVO](#) holds the [copyright](#) to Journal of Vision, Vol. 7, No. 15, but not to the individual abstracts in that issue. ARVO has published these abstracts as a service to the vision science community.

Color in the cortex

- [1](#) Shapley, Johnson, & Hawken [Single Opponent and Double Opponent Cells in Macaque Striate Cortex](#)
- [2](#) Solomon, Tailby, & Lennie [Regulation of chromatic sensitivity in the primate visual system](#)
- [3](#) Horwitz, Chichilnisky, & Albright [Analysis of non-linear cone signal combination in V1](#)
- [4](#) Mullen, Dumoulin, & Hess [Color processing in the human LGN and cortex measured with fMRI](#)

Contributed color talks

- [5](#) Dacey, Packer, Verweij, & Schnapf [Blue-Yellow opponent receptive field structure of primate S-cones](#)

Contributed talk session: Color

- [6](#) Buck [Testing color vision models that incorporate rod influence](#)

- [7](#) Murray, McKeefry, & Parry [What can peripheral colour vision tell us about the organisation of cone-opponent pathways?](#)
- [8](#) Shinomori & Werner [The impulse response functions and interactions for S-cone increments and decrements](#)
- [9](#) Baker, Trujillo, Youngpeter, Nerger, & Volbrecht [As Time Goes By: Peripheral Color Appearance Following Photobleaching](#)
- [10](#) Briggs & Usrey [How colorful is corticogeniculate feedback?](#)

Contributed talk session: Vision

- [11](#) Chandler & Field [How much information is carried by the power and phase spectra of natural scenes?](#)
- [12](#) Falconbridge, Vul, & MacLeod [Dynamics of adaptation to counterphasing gratings](#)
- [13](#) Norcia [Imaging the time-course of Figure-Ground segmentation](#)
- [14](#) Lauritzen, Shenhav, D'Esposito, & Silver [fMRI coherency analysis reveals feedforward progression of visual responses in human early visual cortex](#)
- [15](#) Mancuso, Neitz, Hauswirth, Connor, & Neitz [Gene therapy treatment of color blindness in adult primates](#)
- [16](#) Morgan, Hunter, Masella, Wolfe, Merigan, & Williams [Light Exposures Cause In Vivo Changes in Retinal Autofluorescence](#)

Visual perception, computer graphics and display technology

- [17](#) Silverstein [Advances in Display Technology: From Pixels to Perception](#)
- [18](#) Adelson [Image statistics and surface perception](#)
- [19](#) Malik [Modeling object recognition](#)
- [20](#) Levoy [Synthetic Aperture Photography and Microscopy by Recording and Processing the 4D Light Field](#)

Two eyes, one brain: The machinery of binocular vision

- [21](#) Kara [A functional micro-architecture for binocular disparity and ocular dominance in visual cortex](#)
- [22](#) Horton, Sincich, & Adams [Complete Pattern of Ocular Dominance Columns in Human Striate Cortex](#)
- [23](#) Cumming & Read [Solving the stereo correspondence problem with realistic neurons](#)
- [24](#) Banks [The perceptual consequences of estimating disparity via correlation](#)

Color illusions: implications for visual processes

- [25](#) Shevell [Color lessons taught by form](#)
- [26](#) Kingdom [Illusions of colour and shadow](#)
- [27](#) Conway [Specialized color cells in V1 and beyond](#)
- [28](#) Gilchrist [What lightness illusions can tell us about the brain's visual software](#)

Mechanisms of retinal development

- [29](#) Reese [Determinants of Dendritic Morphology, Connectivity and Coverage in the Retina](#)
- [30](#) Link, Cui, & Baye [Interkinetic nuclear migration, cell polarity, and retinal neurogenesis](#)
- [31](#) Provis & Kozulin [Gene Expression in Central vs Peripheral Primate Retina - Defining the Foveal Avascular Zone](#)
- [32](#) Huberman, Vargas, & Barres [Development of eye-specific projections to the lateral geniculate nucleus](#)

Workshop on computer vision applications for the visually impaired

- [33](#) Peli [Electro-Optical Vision Multiplexing Devices for Vision Impairments](#)
- [34](#) Manduchi [Sensors and Sensibility: Is Computer Vision Appropriate for Assistive Technology?](#)
- [35](#) Beckman [Behavioural Evaluation of the Digital Sign System \(DSS\)](#)
- [36](#) LaPierre [Current and future accessible wayfinding for the blind: From GPS systems to indoor navigation](#)
- [37](#) Belongie [Project GroZi: Assistive Navigational Technology for the Visually Impaired](#)

Vision science and computer games

- [38](#) Bavelier, Green, & Pouget [Action videogame playing improves Bayesian inference for perceptual decision-making](#)
- [39](#) Kersten [Perception, computer graphics, and video games](#)
- [40](#) Allison [Video Game Background and Performance with Visual](#)
- [41](#) McClay & Haas [A Real-time Brain Computer Interface for 3-D Flight Simulation](#)

Imaging the cortex

- [42](#) Gandhi & Stryker [Imaging the functional plasticity of identified cell types in visual cortex](#)

- [43](#) Seidemann, Geisler, & Chen [Optimal decoding of neural population responses in the primate visual cortex](#)
- [44](#) Kriegeskorte [Representational similarity analysis -- relating hi-res fMRI to other modalities and to computational models](#)
- [45](#) Nagarajan [High-fidelity electromagnetic imaging enabled by machine learning](#)

Using AO as a tool beyond conventional imaging

- [46](#) Roorda [What psychophysical testing with adaptive optics can tell us about myopia](#)
- [47](#) Werner, Choi, & Zawadzki [High-Resolution Imaging with Adaptive Optics and Optical Coherence Tomography, and Functional Changes in Retinal Disease](#)
- [48](#) Flannery, Greenberg, & Kolstad [Light](#)
- [49](#) Campbell [Adaptive optics and the future for light based therapies](#)

Poster abstracts

- [50](#) Ahumada [A model for early motion compensation](#)
- [51](#) Allred & Brainard [Scene complexity affects lightness constancy with respect to changes in object slant and surround reflectance](#)
- [52](#) Benucci, Frazor, & Carandini [Imaging pattern adaptation in primary visual cortex](#)
- [53](#) Bloj, Ruppertsberg, Banterle, & Chalmers [Characterisation of a High Dynamic Range display](#)
- [54](#) Brueggemann [The hand is NOT quicker than the eye](#)
- [55](#) Cantor & Schor [Modeling the Flash Pulfrich Effect](#)
- [56](#) Chakraborty, Zheng, Lin, & Rauschenberger [Computational Eye Movement Model based on Adaptive Saliency Map](#)
- [57](#) Chen, Martinez-Conde, Macknik, Swadlow, Alonso, & Lee [Input to cells in macaque V1 revealed with a novel grating stimulus](#)
- [58](#) Dracopoulos & Westall [Reduction of the Photopic Negative Response \(PhNR\) in Children with childhood epilepsy on vigabatrin therapy](#)
- [59](#) Drga & Harris [The use of horizontal disparity in distance perception in sparse, dark environments](#)
- [60](#) D'Souza, Lee, & Frahm [Do chromatic responses in V1 match retinal output or perceptual performance?](#)
- [61](#) Elze, Tanner, Lochmann, & Becker [LCD Monitors in Vision Science](#)

- [62](#) Farini, Arrighi, & Gheri [The relevance of colour in web pages readability](#)
- [63](#) Francis [Cortical dynamics of figure-ground segmentation: Shine through](#)
- [64](#) Frazor, Benucci, & Carandini [Independence of retinotopy and orientation selectivity in the population responses of area V1](#)
- [65](#) Fukushima, Torii, & Ukai [The relationship between CA/C ratio and individual differences in dynamic accommodative responses while viewing stereoscopic images](#)
- [66](#) Reza, Abdollahi, Attarchi, & Esfe [Central Corneal Thickness and Medically Uncontrolled primary open angle glaucoma](#)
- [67](#) Hunter, Morgan, Wolfe, Sparrow, & Williams [Decrease and Recovery of in vitro Retinal Pigment Epithelium Autofluorescence Intensity in Response to Visible Light](#)
- [68](#) Ivanov & Werner [Colour and spatial cue for action: Subliminal colour cue effects motor behaviour](#)
- [69](#) Johnson, Wu, Edwards, & Copenhagen [Vesicular Glutamate Release From Photoreceptors is Required for Maintenance of Synapses in the Outer Retina](#)
- [70](#) Jonnal, Cense, Gao, & Miller [Sight seeing: in vivo detection of human cone phototransduction](#)
- [71](#) Juricevic, Kennedy, & Patel [Perception of Perspective Pictures: Vision's ART theory Approximation](#)
- [72](#) Katzner, Nauhaus, Benucci, Bonin, Ringach, & Carandini [The local field potential in primary visual cortex: how local is it?](#)
- [73](#) Klein & Levi [Problems with modeling detection and identification of signals in noise](#)
- [74](#) Koenig & Hofer [The absolute threshold of cone vision is relatively insensitive to the criteria for seeing](#)
- [75](#) Krishnamoorthy, Pitchaiah, Baloni, & Dhingra [In Vivo Labeling of Mammalian Cone Photoreceptors by Intravitreal Injection of Fluorescently Tagged Peanut Agglutinin - A Potential Tool for Assessing Photoreceptor Degeneration in Humans](#)
- [76](#) Krishnaswamy & Owen [The Statistical Properties of Images as Determinants of Ganglion Cell Activity in the Vertebrate Retina](#)
- [77](#) Kuchenbecker, Carroll, Neitz, & Neitz [Computer Model of Color Vision Circuit Parallels Psychophysical Responses to Single Cone Photoreceptor Stimulation by a 550 nm Wavelength Light](#)
- [78](#) Larson & Chandler [Explaining crypsis and information content in the visual pathway using statistical properties of animal camouflage and natural scenes](#)
- [79](#) Li, Mishra, & Roorda [Simulation and experimental demonstration of a linearized adaptive optics control loop](#)
- [80](#) Lin & Han [Self-construal priming modulates visual activity underlying global/local](#)

[perception](#)

- [81](#) Martin, Dubis, Carroll, & Krauskopf [Estimation of L: M Cone Ratio from ERG, Adaptive Optics, and Color Naming Methods](#)
- [82](#) Mauck, Kuchenbecker, Pawela, Hyde, Hudetz, Neitz, & Neitz [Functional Magnetic Resonance Imaging of Neural Activity in Rat CNS in Response to Chromatic Stimuli](#)
- [83](#) McDermott, Yasuda, Rajewale, & Webster [The perceptual balance of color](#)
- [84](#) McKee, Wade, Pettet, Vildavski, Appelbaum, & Norcia [Disparity processing in the human brain imaged with high density EEG](#)
- [85](#) McKeefry, Burton, Vakrou, Barrett, & Morland [Deficits in speed perception induced by transcranial magnetic stimulation of cortical area V5/MT+](#)
- [86](#) Mihashi [Fluctuations of accommodation and aberrations for both eyes with or without cycloplegia](#)
- [87](#) Nagai & MacLeod [Dependence of perceived brightness on retinal transient signals: is there a temporal Craik-Cornsweet effect?](#)
- [88](#) Nasirzade [Controlling the Single-jointed Flexible Arm with Fuzzy Method](#)
- [89](#) Nauhaus, Benucci, Frazer, Carandini, & Ringach [The degree of orientation selectivity of neurons in V1 depends on the local orientation map](#)
- [90](#) Okiyama, Segawa, & Uchikawa [Effects of Visual Attention on Luminance and Chromatic Contrast Sensitivities in Foveal Vision](#)
- [91](#) Olzak & Kramer [How do second-order mechanisms interact?](#)
- [92](#) Ozolinsh [Dynamics and accuracy of eye aberration measurements](#)
- [93](#) Palomares, Norcia, Wade, Pettet, Vildavski, & Appelbaum [On the differences and similarities between real and implied motion: a high-density EEG study](#)
- [94](#) Peli & Vargas-Martin [Design and Implementations of In-the-Spectacle-Lens Biopic Telescopes](#)
- [95](#) Perez, Manzanera, & Artal [Combined effect of scattering and spherical aberration on contrast sensitivity](#)
- [96](#) Pople & Levi [Attentional blinks as errors in temporal binding](#)
- [97](#) Powers [Binocular vision and Lasik: Improvement following visual skills training](#)
- [98](#) Renninger, Verghese, & Fletcher [Efficient Eye Movements for Low Vision Rehabilitation](#)
- [99](#) Richters & Eskew [Hand-eye correlation: hand movements can alter color judgments](#)
- [100](#) Robinson & de Sa [Measuring White's illusion during brief stimulus displays](#)

- [101](#) Rokem, Sanghvi, & Silver [Motion adaptation bandwidth anisotropies in the human visual system](#)
- [102](#) Saegusa & Ukai [Effect of Gaze Direction on Adaptation to a Stereo-Slant](#)
- [103](#) Sasaki, Yotsumoto, Chan, Vasios, Nanez, Shimojo, Watanabe, & Bonmassar [Brain activity related to consolidation of perceptual learning during sleep](#)
- [104](#) Schreiber [Retinal Correspondence and the Theoretical Horopter](#)
- [105](#) Shinomori, Hamaguchi, Miyazawa, Oda, Tsurumi, Onouchi, & Nakauchi [Functional spectral filter for optical simulation of dichromats in color discrimination](#)
- [106](#) Shinomori, Yokota, & Nakauchi [Color naming and color categorization by dichromats.](#)
- [107](#) Siwinska, Wozniak, Paras, & Webster [Local vs. global distortions in face adaptation](#)
- [108](#) Stockman, Crowther, & Ripamonti [Silent surrounds: the M-cones gate the S-cone input to luminance](#)
- [109](#) Tanahashi, Ujike, & Ukai [Visual rotation axis and posture relative to the gravity axis: effects on circular vection](#)
- [110](#) Tian [Nonlinear Choroidal Responses to Imposed Defocus in Young Chick Eyes](#)
- [111](#) Vedamurthy, Nguyen, & Schor [Cross-coupling between convergence and accommodation is optimized for a broad range of directions and distances of gaze](#)
- [112](#) Westall & Cortese [GABA enhancing antiepileptic drug safer for human developing vs. mature retina](#)
- [113](#) Yamauchi, Nakano, & Uchikawa [Comparison between an algebraic method and the maximum saturation method to estimate individual color matching functions](#)
- [114](#) Yoonessi, Kingdom, & Alqawlaq [Is color patchy?](#)
- [115](#) Yotsumoto [Trained location-specific activity changes during sleep after training of a visual task](#)
- [116](#) Zhang, Tiruveedhula, Sincich, Horton, & Roorda [Adaptive optics scanning laser ophthalmoscope \(AOSLO\) for precise visual stimulus presentation](#)
- [117](#) Zhang, Cantor, & Schor [Temporal Interaction in Perisaccadic Mislocalization](#)
- Boynton lecture**
- [118](#) Jacobs [The role of comparative studies in understanding primate color vision](#)