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Association*



GJB Travel award report  
AVA2001 preliminary information  
References on Vision

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*AIM OF THE AVA: TO PROMOTE AND ADVANCE THE APPLICATION  
OF RESEARCH WORK IN ALL AREAS RELATED TO VISION*



# ***Noticeboard***



## **AVA on the Internet**

The Applied Vision Association now has its own world wide web pages at:  
*<http://www.dmu.ac.uk/ava/>*

The pages contain details of who is on the committee, contact emails, latest details on forthcoming AVA meetings and links to other vision related pages. There are also archives of abstracts from previous AVA meetings.

There is also an AVA anonymous ftp site at: *<ftp://hc.les.dmu.ac.uk>*

This site contains:

- a hyperspectral data set of natural scenes produced by Gavin Brelstaff (see <http://www.crs4.it/~gjb/ftpJOSA.html>).
- David Foster's bootstrap program for estimating the accuracy of a statistical estimate derived from a set of experimental data (see <http://www.op.umist.ac.uk/bootstrap.html>).

If there is anything else you think this archive should contain then let us know.

## **AVA and OPO Subscriptions**

Membership for 2000/2001 will be as follows: ordinary members £18, student members £9. Those members who pay by standing order for the AVA and Ophthalmic and Physiological Optics please check that the correct amount is being paid to the AVA.

## ***Editorial***

This issue of the Bulletin contains a report by Jane Aspell who won the AVA Geoffrey J. Burton travel award this year. We also include details of the forthcoming AVA Christmas meeting which this year will be held at the University of Surrey, and preliminary information about AVA2001. If you have any comments on the Bulletin of the AVA then do contact me: [mscase@dmu.ac.uk](mailto:mscase@dmu.ac.uk)

**Deadline for copy for the next Bulletin - 11<sup>th</sup> December 2000**

## **Geoffrey J. Burton Memorial Fund**

The fund was established in 1986 with the aim of providing financial assistance to students (postgraduates studying for a higher degree or first-year postdoctoral junior scientists) based in the UK travelling to any conferences or meetings at which they will be presenting a paper or poster. Donations to the fund can be directed to the AVA secretariat and cheques etc. should be made payable to "The Geoffrey J. Burton Memorial Fund".

The maximum award to any one individual is £400.

The AVA Committee has decided that from now on there will be a single award made once a year. The closing date for awards will be the last day in February each year and will be for conferences held from 1<sup>st</sup> March to the end of the following February (i.e. there will not be retrospective awards). Applicants do not have to be presenting at an AVA conference.

The next closing date for applications is:

28<sup>th</sup> February 2001

for conferences held between 1<sup>st</sup> March 2001 and 28<sup>th</sup> February 2002.

To apply for an award you need to complete an application form which is available from:

The AVA Secretariat,  
College of Optometrists,  
42 Craven Street,  
London,  
WC2N 5NG.

A PDF format version of the application form is available on the AVA web site at:

<http://www.dmu.ac.uk/ava/>

The Geoffrey J. Burton Award for 2000 was announced at the AVA AGM in March. The AVA Committee decided to make an award of £400 to Jane Aspell from the University of Newcastle to contribute toward her travelling expenses to the ECVP conference in the Netherlands in August 2000. Below is the report Jane wrote on her experience of ECVP.

**Report of ECVP meeting, Groningen, The Netherlands,  
August 2000.**

**Jane Aspell, University of Newcastle**

In August I made my first trip to ECVP (The European Conference on Visual Perception), funded by the Geoffrey Burton travel bursary. The conference was situated in the AZG (the Academisch Ziekenhuis Groningen), a hospital like none other I have seen, with glass ceilings high enough to fit fully-grown palm trees beneath them.

I presented a poster entitled *'Interactions between visual and auditory movement perception in an direction discrimination task'*. It describes work done with Anya Hurlbert and David Bramwell which investigated the influence of visual motion stimuli on auditory motion perception and vice versa. We have found that in the auditory task, 'ignored' visual motion influences the perception of attended auditory motion in 5/5 observers and that in the visual task 'ignored' auditory motion influences the perception of attended visual motion. A fixed linear summation of weighted responses cannot explain all the data. Instead, interactions depend on the task, the observer and the relative strengths of the two cues.

The poster attracted a good deal of interest, so much so that I missed a whole session of oral presentations! Feedback, as ever, proved to be thought provoking and enlightening. From the discussions I had with visitors to the poster, new ideas for additional experiments were generated. It was a great opportunity to hear views from many different perspectives from people with very different backgrounds.

A number of other posters and oral presentations were on a similar theme: Tiippana and Sams presented a poster on the effect of visual attention on the integration of audiovisual speech; Troidl and Colonius discussed the influence of an auditory stimulus on reaction time and visual target choice; Arndt and Colonius revealed auditory intensity effects on visual-auditory

integration, and Oezyurt and Colonius provided evidence for a refractory period in a visual-auditory countermanding task.

Given that I am also involved in MEG and EEG studies as part of my PhD, I was interested in a poster by Schlack *et al* which presented fMRI evidence for a human homologue of the polysensory area VIP. They showed responses in 'VIP' to separate auditory, somatosensory and visual motion stimuli. There were very few presentations on EEG and MEG but there was a special symposium on neuro-imaging which focussed on fMRI. I was also pleased to have the opportunity to learn more about cue combination in the special symposium on the subject.

The most interesting session of the whole conference for me was that on motion and timing. In his talk, Nishida described the perceptual delay seen for rapid motion changes relative to rapid colour changes. His demonstration showed a green plaid moving upwards. A rapid direction change then resulted in a red plaid moving downwards. Despite the colour change and direction change occurring simultaneously, they are not perceived as synchronous. Zeki attributes this to a difference in the processing latencies in areas V4 and V5.

Nishida found that this perceptual delay could be made to disappear, for example when the instruction was to follow the stimulus oscillation with a mouse movement. He speculated that the delay, when it occurs, is due to a mismatching between more salient first order changes (motion, colour change) and less salient second order changes (direction reversal). The brain may be assigning time markers to these first order changes and temporal judgements are referred to these markers. As Dennett and Kinsbourne (1992) pointed out, these time markers are not necessarily related to the objective time course of neural processing. Or in other words, representation of time in the brain need not exactly correlate with chronological time.

I'd like to express my gratitude to the committee at AVA for awarding me the Geoffrey Burton grant, and enabling me to enjoy such a profitable time at ECVP.

## References

- Arndt, P.A. & Colonious, H. (2000) 'Auditory intensity effects on visual-auditory integration in the control of eye and hand movements.' *ECVP 2000 conference abstract*
- Aspell, J.E., Bramwell, D.I. & Hurlbert, A.C. (2000) 'Interactions between visual and auditory movement perception in a direction discrimination task.' *ECVP 2000 conference abstract*
- Dennett, D.C. & Kinsbourne, M. (1992) 'Time and the observer- The where and when of consciousness in the brain.' *Behavioral and Brain sciences 15(2): 183-201*
- Nishida, S. & Johnston, A. (2000) 'Perceptual delay for rapid direction alternations: A new account in terms of the dichotomy of the first order and second order temporal changes.' *ECVP 2000 conference abstract*
- Oezyurt, J. & Colonious, H. (2000) 'Evidence for a psychological refractory period in a visual-auditory counterdemanding task.' *ECVP 2000 conference abstract*
- Schlack, A., Bremmer, F., Shah, N.J., Zafiris, O., Kubischik, M., Hoffman, K.P., Zilles, K. & Fink, G.R. (2000) 'The human homologue of macaque area VIP.' *ECVP 2000 conference abstract*
- Tiippana, K & Sams, K (2000) 'Distraction of visual attention reduces integration of audiovisual speech.' *ECVP 2000 conference abstract*
- Troidl, K.E. & Colonious, H. (2000) 'The influence of an auditory accessory stimulus on target choice and reaction time with two visual stimuli.' *ECVP 2000 conference abstract*

Jane presented the following abstract:

**Interactions between visual and auditory movement perception in a direction discrimination task.**

Aspell, J.E., Bramwell, D.J. and Hurlbert, A.C. Physiological Sciences, Medical School, University of Newcastle upon Tyne, NE2 4HH, UK.

**Purpose:** To investigate interactions between the perception of visual and auditory movement. **Methods:** Observers viewed random dot kinematograms on a CRT display while listening to sound movement simulated by interaural amplitude modulation (IAM) of a 500 Hz tone over headphones. Each trial began with a “noise” phase, during which the dots moved at random while the sound remained stationary, followed by the “coherent” phase, during which a percentage of randomly selected dots moved together leftwards or rightwards, while the sound moved in the same or opposite direction. Observers maintained visual fixation on a central marker throughout. In the visual task, observers ignored the sound and reported the direction of coherent dot movement. In the auditory task, observers reported sound movement direction. The degree of IAM and the percentage coherence were both varied independently in all combinations from sub- to suprathreshold levels. **Results:** For 5/5 observers, the presents of concurrent visual motion enhanced performance on the auditory task, whereas conflicting visual motion degraded performance. For 3/5 observers, sound movement had significant effects on performance of the visual task; for 2 observers, the effects were degrading for both concurrent and conflicting sound movement. The effects cannot be explained by probability summation of two independent mechanisms signalling motion direction.

# THE FIFTH AVA CHRISTMAS MEETING

## ATTENTION VISION AND ACTION

INVITED SPEAKERS WILL INCLUDE:

Profs Jane Raymond and Eli Brenner

THE MEETING:

Following the continued success of previous Christmas Meetings, The Applied Vision Association (AVA) will be holding a one-day meeting on **Wednesday 20<sup>th</sup> December**. This year, the meeting will be held in the Psychology Department of the University of Surrey. Vision scientists with backgrounds in psychophysics, neurophysiology, and computational vision are invited to submit 250 word abstracts on any aspect of visual perception, with particular emphasis on the themes of attention, vision and action.

Abstracts will be published in Perception.

The deadline for submission of abstracts is:

\* Friday November 17th \*

email submission of abstracts (to [m.bradshaw@surrey.ac.uk](mailto:m.bradshaw@surrey.ac.uk) or [p.hibbard@surrey.ac.uk](mailto:p.hibbard@surrey.ac.uk)) is preferred.

Authors should include a statement of preference for: (i) a 15/20 minute talk or (ii) a poster.

FURTHER DETAILS:

For further information and submission of abstracts contact:

Paul Hibbard ([p.hibbard@surrey.ac.uk](mailto:p.hibbard@surrey.ac.uk))

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**AVA2001**

**21 March 2001**

**College of Optometrists,  
London.**

**Meeting theme:  
Visual Adaptation**

The Geoffrey J. Burton memorial lecture will be given by:

**Professor Colin Blakemore FRS,  
Waynflete Professor of Physiology, University of Oxford.**

“Visual Plasticity: benefits and costs”

For more information contact:

Dr Keith Langley,  
Department of Psychology,  
University College London,  
Gower Street,  
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## AVA books for sale

The AVA still has a number of new books for sale from conferences that it has organised over the years.

Payment can be by cheque or postal order in UK pounds (sorry, no credit cards) to “Applied Vision Association”. Send your payment with the order to:

AVA Secretariat,  
Applied Vision Association,  
College of Optometrists,  
42 Craven Street,  
London WC2N 5NG.

### Books available:

The cost for each book is £15 (including postage in the UK) for AVA members or £20 for non-AVA members. If you are outside the UK then add £5 per book to each of the prices above.

Gale, A.S., Astley, S.M., Dance, D.R. and Cairns, A.Y. (1994) **Digital Mammography**. Elsevier (424 pages).

Gale, A.S., Brown, I.D., Haslegrave, C.M., Krusysse, H.W. and Taylor, S.P. (1993) **Vision in Vehicles IV**. North Holland (355 pages).

Brogan, D., Gale, A. and Carr, K. (1993) **Visual Search 2**. Taylor and Francis (477 pages).

The cost of the Dalton conference book is £43 (including postage in the UK) for AVA members or £48 for non-AVA members. If you are outside the UK then add £5 per book.

Dickinson, C., Murray, I. and Carden, D. (1996) **John Dalton’s Colour Vision Legacy**. Taylor and Francis (784 pages).



## Selected References



- Aglioti, S., Bricolo, E., Cantagallo, A., & Berlucchi, G. (1999). Unconscious letter discrimination is enhanced by association with conscious color perception in visual form agnosia. *Current Biology*, 9(23), 1419-1422.
- Anderson, D. P. (2000). Vision standards for driving in Canada. *Canadian Journal of Ophthalmology-Journal Canadien D Ophthalmologie*, 35(4), 183-183.
- Antrop, M., & Van Eetvelde, V. (2000). Holistic aspects of suburban landscapes: visual image interpretation and landscape metrics. *Landscape and Urban Planning*, 50(1-3), 43-58.
- Applegate, R. A. (2000). Limits to vision: Can we do better than nature? *Journal of Refractive Surgery*, 16(5), S547-S551.
- Arguin, M., & Saumier, D. (2000). Conjunction and linear non-separability effects in visual shape encoding. *Vision Research*, 40(22), 3099-3115.
- Arrese, C., Archer, M., Runham, P., Dunlop, S. A., & Beazley, L. D. (2000). Visual system in a diurnal marsupial, the numbat (*Myrmecobius fasciatus*): Retinal organization, visual acuity and visual fields. *Brain Behavior and Evolution*, 55(4), 163-175.
- Awater, H., Krekelberg, B., & Lappe, M. (2000). Perisaccadic visual stimulation changes perceived target positions. *Perception*, 29, 8-8.
- Bachmann, G., & Fahle, M. (2000). Component perimetry: A fast method to detect visual field defects caused by brain lesions. *Investigative Ophthalmology & Visual Science*, 41(10), 2870-2886.
- Bauer, A., Kolling, G., Dietz, K., Zrenner, E., & Schiefer, U. (2000). Are squinters second-class motorists? Influence of stereoscopic disparity on driving performance. *Klinische Monatsblätter Fur Augenheilkunde*, 217(3), 183-189.
- Bertin, R. J. V., Israel, I., & Lappe, M. (2000). Perception of two-dimensional, simulated ego-motion trajectories from optic flow. *Vision*

*Research*, 40(21), 2951-2971.

Bex, P. J. (1999). Apparent speed and speed sensitivity during adaptation to motion. *Journal of the Optical Society of America a-Optics Image Science and Vision*, 16(12), 2817-2824.

Blazek, E., Lado, G., Mattiello, M., & Tonti, A. (2000). A computational contrast-vision model for the analysis of anomalous contrast-sensitivity measurement. *Perception*, 29, 41-41.

Blohme, J., & Tornqvist, K. (2000). Visually impaired Swedish children. The 1980 cohort study - a 19-year ophthalmological follow-up. *Acta Ophthalmologica Scandinavica*, 78(5), 553-559.

Blohme, J., & Tornqvist, K. (2000). Visually impaired Swedish children. The 1980 cohort study aspects on mortality. *Acta Ophthalmologica Scandinavica*, 78(5), 560-565.

Braddick, O. J., O'Brien, J. M. D., Wattam-Bell, J., Atkinson, J., & Turner, R. (2000). Form and motion coherence activate independent, but not dorsal/ventral segregated, networks in the human brain. *Current Biology*, 10(12), 731-734.

Brunette, I., Gresset, J., Boivin, J. F., Boisjoly, H., & Makni, H. (2000). Functional outcome and satisfaction after photorefractive keratectomy - Part 1: Development and validation of a survey questionnaire. *Ophthalmology*, 107(9), 1783-1789.

Bulthoff, H. H. (2000). Visual, haptic, and vestibular cue integration. *Perception*, 29, 3-4.

Burr, D. (2000). Motion vision: Are 'speed lines' used in human visual motion? *Current Biology*, 10(12), R440-R443.

Cabel, D. W. J., Armstrong, I. T., Reingold, E., & Munoz, D. P. (2000). Control of saccade initiation in a countermanding task using visual and auditory stop signals. *Experimental Brain Research*, 133(4), 431-441.

Casson, E. J., & Racette, L. (2000). Vision standards for driving in Canada and the United States. A review for the Canadian Ophthalmological Society. *Canadian Journal of Ophthalmology-Journal Canadien D*

*Ophthalmologie*, 35(4), 192-203.

Chklovskii, D. B., & Koulakov, A. A. (2000). A wire length minimization approach to ocular dominance patterns in mammalian visual cortex. *Physica A*, 284(1-4), 318-334.

Clifford, C. W. G., Wenderoth, P., & Spehar, B. (2000). A functional angle on some after-effects in cortical vision. *Proceedings of the Royal Society of London Series B-Biological Sciences*, 267(1454), 1705-1710.

Coull, J., Bennett, S. J., Elliott, D., & Rioja, N. (2000). Effects of off-period duration between intermittent visual samples and viewing on one-handed catching. *Journal of Sport & Exercise Psychology*, 22, S28-S29.

Dagnelie, G., Thompson, R. W., Barnett, G. D., & Zhang, W. Q. (2000). Visual perception and performance under conditions simulating prosthetic vision. *Perception*, 29, 84-84.

Dannemiller, J. L., & Stephens, B. R. (2000). Contrast discrimination under temporally varying contrast conditions. *Perception & Psychophysics*, 62(5), 1039-1050.

Delgado-Garcia, J. M. (2000). Why move the eyes if we can move the head? *Brain Research Bulletin*, 52(6), 475-482.

Derrington, A. M. (2000). Vision: Can colour contribute to motion? *Current Biology*, 10(7), R268-R270.

Diez, M. A., Capilla, P., Luque, M. J., Gomez, J., & de Fez, M. D. (2000). Theoretical analysis of dichromatic vision with an ATD colour model. *Perception*, 29, 16-16.

Donahue, S. P., Johnson, T. M., & Leonard-Martin, T. C. (2000). Screening for amblyogenic factors using a volunteer lay network and the MTI PhotoScreener - Initial results from 15,000 preschool children in a statewide effort. *Ophthalmology*, 107(9), 1637-1644.

Doyle, A. M., & Li, L. (2000). The effects of vision, gait speed, and gait modes on head range of motion. *Journal of Sport & Exercise Psychology*, 22, S35-S35.

El Mallah, M. K., Chakravarthy, U., & Hart, P. M. (2000). Amblyopia: is visual loss permanent? *British Journal of Ophthalmology*, *84*(9), 952-956.

Enns, J. T., & Di Lollo, V. (2000). What's new in visual masking? *Trends in Cognitive Sciences*, *4*(9), 345-352.

Facoetti, A., & Turatto, M. (2000). Asymmetrical visual fields distribution of attention in dyslexic children: a neuropsychological study. *Neuroscience Letters*, *290*(3), 216-218.

Fahle, M., Heinrich, S. P., & Mahmud, S. H. (2000). Parallel detection of orientation differences in the presence of orientation gradients. *Vision Research*, *40*(21), 2905-2913.

Fellows, S. J., Heumann, M., Klotz, W., Neumann, O., Noth, J., Topper, R., & Schwarz, M. (2000). Can masked visual information modify motor performance? *Journal of Physiology-London*, *525*, 47P-47P.

ffytche, D. H., Howseman, A., Edwards, R., Sandeman, D. R., & Zeki, S. (2000). Human area V5 and motion in the ipsilateral visual field. *European Journal of Neuroscience*, *12*(8), 3015-3025.

Findlay, J. M. (2000). Visual attention: The active vision perspective. *Perception*, *29*, 1-1.

Fischer, B., Hartnegg, K., & Mokler, A. (2000). Fixation, saccade control, and dynamic vision in dyslexia. *Perception*, *29*, 48-48.

Fricke, J., Neugebauer, A., Nobis, H., Bartz-Schmidt, K. U., & Russmann, W. (2000). Counterrotation of the globe in macular translocation. *Graefes Archive for Clinical and Experimental Ophthalmology*, *238*(8), 664-668.

Fristrom, B., & Lundh, B. L. (2000). Colour contrast sensitivity in cataract and pseudophakia. *Acta Ophthalmologica Scandinavica*, *78*(5), 506-511.

Frost, D. O., Boire, D., Gingras, C., & Ptito, M. (2000). Surgically created neural pathways mediate visual pattern discrimination. *Proceedings of the National Academy of Sciences of the United States of America*, *97*(20), 11068-11073.

Fulk, G. W., Cyert, L. A., & Parker, D. E. (2000). A randomized trial of the effect of single-vision vs. bifocal lenses on myopia progression in

- children with esophoria. *Optometry and Vision Science*, 77(8), 395-401.
- Gallant, J. L., Shoup, R. E., & Mazer, J. A. (2000). A human extrastriate area functionally homologous to macaque V4. *Neuron*, 27(2), 227-235.
- Gegenfurtner, K. R., Mayser, H. M., & Sharpe, L. T. (2000). Motion perception at scotopic light levels. *Journal of the Optical Society of America A-Optics Image Science and Vision*, 17(9), 1505-1515.
- Gegenfurtner, K. R., & Rieger, J. (2000). Sensory and cognitive contributions of color to the recognition of natural scenes. *Current Biology*, 10(13), 805-808.
- Gellatly, A. R. H., & Cole, G. (2000). Do spatial precues affect preattentive vision when accuracy is the measure? *Perception*, 29, 102-102.
- Genova, B., Mateeff, S., Bonnet, C., & Hohnsbein, J. (2000). Mechanisms of simple and choice reaction to changes in direction of visual motion. *Vision Research*, 40(22), 3049-3058.
- Govardovskii, V. I., Fyhrquist, N., Reuter, T., Kuzmin, D. G., & Donner, K. (2000). In search of the visual pigment template. *Visual Neuroscience*, 17(4), 509-528.
- Graf, M. (2000). Objective testing of visual acuity. *Ophthalmologie*, 97(8), 582-600.
- Gray, R. (2000). Attentional tunnel vision for motion. *Perception*, 29, 74-75.
- Greenberg, R. J. (2000). Visual prostheses: A review. *Neuromodulation*, 3(3), 161-165.
- Groth, K. E., & Allen, P. A. (2000). Visual attention and aging. *Frontiers in Bioscience*, 5, D284-D297.
- Harrison, R. R., & Koch, C. (2000). A silicon implementation of the fly's optomotor control system. *Neural Computation*, 12(10), 2291-2304.
- Hayashi, Y., Kosugi, Y., & He, B. (2000). A network inversion technique for estimating equivalent dipole description of visual evoked potential

(vol 39, pg 134, 2000). *Methods of Information in Medicine*, 39(3), 277-277.

He, S., & MacLeod, D. I. A. (2000). Spatial and temporal properties of light adaptation in the rod system. *Vision Research*, 40(22), 3073-3081.

Hess, R. F., Dakin, S. C., Kapoor, N., & Tewfik, M. (2000). Contour interaction in fovea and periphery. *Journal of the Optical Society of America A-Optics Image Science and Vision*, 17(9), 1516-1524.

Hoffmann, M. B., Morland, A. B., & Tolhurst, D. J. (2000). Evidence from functional magnetic resonance imaging for abnormal visual projection in a human albino. *Journal of Physiology-London*, 525, 58P-58P.

Howard, C. M., Tregear, S. J., & Werner, J. S. (2000). Time course of early mesopic adaptation to luminance decrements and recovery of spatial resolution. *Vision Research*, 40(22), 3059-3064.

Howard, I. P., Jenkin, H. L., & Hu, G. (2000). Visually-induced reorientation illusions as a function of age. *Aviation Space and Environmental Medicine*, 71(9), A87-A91.

Humayun, M. S., de Juan, E., del Cerro, M., Dagnelie, G., Radner, W., Saddy, S. R., & del Cerro, C. (2000). Human neural retinal transplantation. *Investigative Ophthalmology & Visual Science*, 41(10), 3100-3106.

Humphreys, G. W., & Donnelly, N. (2000). 3-D constraints on spatially parallel shape perception. *Perception & Psychophysics*, 62(5), 1060-1085.

Hurlbert, A. (2000). Visual perception: Learning to see through noise. *Current Biology*, 10(6), R231-R233.

Imai, H., Terakita, A., & Shichida, Y. (2000). Analysis of amino acid residues in rhodopsin and cone visual pigments that determine their molecular properties, *Vertebrate Phototransduction and the Visual Cycle, Part A* (Vol. 315, pp. 293-312).

Intriligator, J., Henaff, M. A., & Michel, F. (2000). Able to name, unable to compare: the visual abilities of a posterior split-brain patient. *Neuroreport*, 11(12), 2639-2642.

- James, T. W., Humphrey, G. K., Gati, J. S., Menon, R. S., & Goodale, M. A. (2000). The effects of visual object priming on brain activation before and after recognition. *Current Biology*, *10*(17), 1017-1024.
- Jang, G. F., McNee, J. K., Alekseev, A. M., Haeseleer, F., & Palczewski, K. (2000). Stereoisomeric specificity of the retinoid cycle in the vertebrate retina. *Journal of Biological Chemistry*, *275*(36), 28128-28138.
- Jasinskiene, A., Lukauskiene, R., & Gurevicius, K. (2000). Colour vision abnormalities in dysfunction of peripheral visual neurons. *Perception*, *29*, 98-98.
- Keltner, J. L., Johnson, C. A., Quigg, J. M., Cello, K. E., Kass, M. A., & Gordon, M. O. (2000). Confirmation of visual field abnormalities in the ocular hypertension treatment study. *Archives of Ophthalmology*, *118*(9), 1187-1194.
- Kennedy, R. A., & Thomas, D. E. (2000). Evaluation of the iScreen digital screening system for amblyogenic factors. *Canadian Journal of Ophthalmology-Journal Canadien D Ophtalmologie*, *35*(5), 258-262.
- Khan, M. A., & Franks, I. M. (2000). The effect of practice on component submovements is dependent on the availability of visual feedback. *Journal of Motor Behavior*, *32*(3), 227-240.
- Kim, E., Enoch, J. M., Fang, M. S. M., Lakshminarayanan, V., Kono, M., Strada, E., & Srinivasan, R. (2000). Performance on the three-point vernier alignment or acuity test as a function of age: Measurement extended to ages 5 to 9 years. *Optometry and Vision Science*, *77*(9), 492-495.
- King, W. M., & Zhou, W. (2000). New ideas about binocular coordination of eye movements: Is there a chameleon in the primate family tree? *Anatomical Record*, *261*(4), 153-161.
- Kirino, E., Belger, A., Goldman-Rakic, P., & McCarthy, G. (2000). Prefrontal activation evoked by infrequent target and novel stimuli in a visual target detection task: An event-related functional magnetic resonance imaging study. *Journal of Neuroscience*, *20*(17), 6612-6618.
- Korth, M., Rix, R., & Sembritzki, O. (2000). The sequential processing of visual motion in the human electroretinogram and visual evoked potential.

*Visual Neuroscience*, 17(4), 631-646.

Kremlacek, J., Paakkonen, A., Chlubnova, J., & Kuba, M. (2000). Flicker-based colour illusion in peripheral vision. *Perception*, 29, 90-90.

Kurtenbach, A., Langrova, H., & Zrenner, E. (2000). Multifocal oscillatory potentials in type 1 diabetes without retinopathy. *Investigative Ophthalmology & Visual Science*, 41(10), 3234-3241.

LaMotte, J., Ridder, W., Yeung, K., & De Land, P. (2000). Effect of aftermarket automobile window tinting films on driver vision. *Human Factors*, 42(2), 327-336.

Lau, J. J. S., Thach, A. B., Burden, J. H., Ward, T. P., Hshieh, P. B., & Hollifield, R. D. (2000). Eye injuries in the US Armed Forces. *Military Medicine*, 165(9), 683-686.

Lennie, P. (2000). Color vision: Putting it together. *Current Biology*, 10(16), R589-R591.

Lewis, J. W., Beauchamp, M. S., & DeYoe, E. A. (2000). A comparison of visual and auditory motion processing in human cerebral cortex. *Cerebral Cortex*, 10(9), 873-888.

Liang, H. L., Ding, M. Z., Nakamura, R., & Bressler, S. L. (2000). Causal influences in primate cerebral cortex during visual pattern discrimination. *Neuroreport*, 11(13), 2875-2880.

Liegeois, F., Bentejac, L., & de Schonen, S. (2000). When does inter-hemispheric integration of visual events emerge in infancy? A developmental study on 19-to 28-month-old infants. *Neuropsychologia*, 38(10), 1382-1389.

Lindner, A., & Ilg, U. J. (2000). Initiation of smooth-pursuit eye movements to first-order and second-order motion stimuli. *Experimental Brain Research*, 133(4), 450-456.

Livingston, C. A., & Mustari, M. J. (2000). The anatomical organization of the macaque pregeniculate complex. *Brain Research*, 876(1-2), 166-179.

- Lovie-Kitchin, J. E., Bowers, A. R., & Woods, R. L. (2000). Oral and silent reading performance with macular degeneration. *Ophthalmic and Physiological Optics*, 20(5), 360-370.
- Lovie-Kitchin, J. E., & Brown, B. (2000). Repeatability and intercorrelations of standard vision tests as a function of age. *Optometry and Vision Science*, 77(8), 412-420.
- Lowel, S. (2000). Early postnatal development of functional ocular dominance columns in cat primary visual cortex (vol 11, pg 2363, 2000). *Neuroreport*, 11(12), COVER3-COVER3.
- Lu, Z. L., & Doshier, B. A. (2000). Spatial attention: Different mechanisms for central and peripheral temporal precues? *Journal of Experimental Psychology-Human Perception and Performance*, 26(5), 1534-1548.
- Lubow, R. E., Kaplan, O., Abramovich, P., Rudnick, A., & Laor, N. (2000). Visual search in schizophrenia: latent inhibition and novel pop-out effects. *Schizophrenia Research*, 45(1-2), 145-156.
- Marini, D., & Rizzi, A. (2000). A computational approach to color adaptation effects. *Image and Vision Computing*, 18(13), 1005-1014.
- Mather, G. (2000). Integration biases in the Ouchi and other visual illusions. *Perception*, 29(6), 721-727.
- McColl, S. L., & Wilkinson, F. (2000). Visual contrast gain control in migraine: measures of visual cortical excitability and inhibition. *Cephalalgia*, 20(2), 74-84.
- McFadzean, R. M. (2000). fMRI: Has it fulfilled its function with respect to the visual system? *Neuro-Ophthalmology*, 23(3-4), 157-164.
- McMahon, T. T., & Zadnik, K. (2000). Twenty-five years of contact lenses - The impact on the cornea and ophthalmic practice. *Cornea*, 19(5), 730-740.
- McSorley, E., & Findlay, J. M. (2000). Visual search in depth. *Perception*, 29, 10-10.
- Melgosa, M., Rivas, M. J., Hita, E., & Vienot, F. (2000). Are we able to

- distinguish color attributes? *Color Research and Application*, 25(5), 356-367.
- Mikaelian, S., & Qian, N. (2000). A physiologically-based explanation of disparity attraction and repulsion. *Vision Research*, 40(21), 2999-3016.
- Milanova, M., Almeida, P. E. M., Okamoto, J., & Simoes, M. G. (1999). Applications of Cellular Neural Networks for shape from shading problem, *Machine Learning and Data Mining in Pattern Recognition* (Vol. 1715, pp. 51-63).
- Molebny, V. V., Panagopoulou, S. I., Molebny, S. V., Wakil, Y. S., & Pallikaris, I. G. (2000). Principles of Ray tracing aberrometry. *Journal of Refractive Surgery*, 16(5), S572-S575.
- Molton, N., & Brady, M. (2000). Practical structure and motion from stereo when motion is unconstrained. *International Journal of Computer Vision*, 39(1), 5-23.
- Morita, T., Kochiyama, T., Yamada, H., Konishi, Y., Yonekura, Y., Matsumura, M., & Sadato, N. (2000). Difference in the metabolic response to photic stimulation of the lateral geniculate nucleus and the primary visual cortex of infants: a fMRI study. *Neuroscience Research*, 38(1), 63-70.
- Muller, H. J., & von Muhlenen, A. (2000). Probing distracter inhibition in visual search: Inhibition of return. *Journal of Experimental Psychology-Human Perception and Performance*, 26(5), 1591-1605.
- Mut, V., Nasisi, O., Carelli, R., & Kuchen, B. (2000). Tracking adaptive impedance robot control with visual feedback. *Robotica*, 18, 369-374.
- Nakamura, K., Honda, M., Okada, T., Hankawa, T., Fukuyama, H., Konishi, J., & Shibasaki, H. (2000). Attentional modulation of parieto-occipital cortical responses: implications for hemispatial neglect. *Journal of the Neurological Sciences*, 176(2), 136-143.
- Neely, P. (2000). Better Word processors for the vision impaired. *Communications of the ACM*, 43(9), 12-12.
- Oliva, A., & Schyns, P. G. (2000). Diagnostic colors mediate scene

recognition. *Cognitive Psychology*, 41(2), 176-210.

Oliver, N. M., Rosario, B., & Pentland, A. P. (2000). A Bayesian computer vision system for modeling human interactions. *Ieee Transactions on Pattern Analysis and Machine Intelligence*, 22(8), 831-843.

Parmar, D. N., Sofat, A., Bowman, R., Bartlett, J. R., & Holder, G. E. (2000). Visual prognostic value of the pattern electroretinogram in chiasmal compression. *British Journal of Ophthalmology*, 84(9), 1024-1026.

Parraga, C. A., Troscianko, T., Tolhurst, D. J., & Gilchrist, I. D. (2000). Discrimination thresholds for morphed objects in peripheral vision. *Perception*, 29, 58-58.

Patel, N. P., Clinch, T. E., Weis, J. R., Ahn, C., Lundergan, M. K., & Heidenreich, K. (2000). Comparison of visual results in initial and re-treatment laser in situ keratomileusis procedures for myopia and astigmatism. *American Journal of Ophthalmology*, 130(1), 1-11.

Peli, E. (2000). Field expansion for homonymous hemianopia by optically induced peripheral exotropia. *Optometry and Vision Science*, 77(9), 453-464.

Peli, E. (2000). Vision multiplexing for vision rehabilitation: from basic research to applications and back. *Perception*, 29, 118-118.

Phillips, W. A., & Craven, B. J. (2000). Interactions between coincident and orthogonal cues to texture boundaries. *Perception & Psychophysics*, 62(5), 1019-1038.

Plummer, D. J., Azen, S. P., & Freeman, W. R. (2000). Scanning laser entoptic perimetry for the screening of macular and peripheral retinal disease. *Archives of Ophthalmology*, 118(9), 1205-1210.

Plummer, D. J., Lopez, A., Azen, S. P., LaBree, L., Bartsch, D. U. G., Sadun, A. A., & Freeman, W. R. (2000). Correlation between static automated and scanning laser entoptic perimetry in normal subjects and glaucoma patients. *Ophthalmology*, 107(9), 1693-1701.

Podoll, K., & Robinson, D. (2000). Illusory splitting as visual aura symptom

in migraine. *Cephalalgia*, 20(4), 228-232.

Poggel, D. A., Kasten, E., Muller-Oehring, E. M., Strasburger, H., & Sabel, B. A. (2000). Visuospatial attention influences residual vision of patients with brain lesions and near-threshold vision of healthy subjects. *Perception*, 29, 117-117.

Pommerening, U., Jaschinski, W., Forster, H., Kuhl, A., & Kiffmeyer, F. A. (2000). Effect of binocular vision training on the proximal fixation disparity curve. *Perception*, 29, 70-70.

Proteau, L., Boivin, K., Linossier, S., & Abahnini, K. (2000). Exploring the limits of peripheral vision for the control of movement. *Journal of Motor Behavior*, 32(3), 277-286.

Przybyaszewski, A. W., Gaska, J. P., Foote, W., & Pollen, D. A. (2000). Striate cortex increases contrast gain of macaque LGN neurons. *Visual Neuroscience*, 17(4), 485-494.

Querne, L., Eustache, F., & Faure, S. (2000). Interhemispheric inhibition, intrahemispheric activation, and lexical capacities of the right hemisphere: A tachistoscopic, divided visual-field study in normal subjects. *Brain and Language*, 74(2), 171-190.

Rodriguez-Sanchez, R., Garcia, J. A., Fdez-Valdivia, J., & Fdez-Vidal, X. R. (2000). Origins of illusory percepts in digital images. *Pattern Recognition*, 33(12), 2007-2017.

Rohrschneider, K., Spandau, U., Wechsler, S., & Blankenagel, A. (2000). Use of a new night vision enhancement device (DAVIS). *Klinische Monatsblätter Für Augenheilkunde*, 217(2), 88-93.

Rolls, E. T. (2000). Functions of the primate temporal lobe cortical visual areas in invariant visual object and face recognition. *Neuron*, 27(2), 205-218.

Roorda, A., Williams, D. R., Yoon, G. Y., & Yamauchi, Y. (2000). The eye's optics, the trichromatic cone mosaic, and human vision. *Perception*, 29, 43-43.

Ross, J., Badcock, D. R., & Hayes, A. (2000). Coherent global motion in

the absence of coherent velocity signals. *Current Biology*, 10(11), 679-682.

Ross, W. D., Grossberg, S., & Mingolla, E. (2000). Visual cortical mechanisms of perceptual grouping: interacting layers, networks, columns, and maps. *Neural Networks*, 13(6), 571-588.

Rudvin, I., Valberg, A., & Kilavik, B. E. (2000). Visual evoked potentials and magnocellular and parvocellular segregation. *Visual Neuroscience*, 17(4), 579-590.

Safran, A. B. (2000). Cortical plasticity in the adult visual system. Clinical implications. *Neuro-Ophthalmology*, 23(3-4), 169-171.

Schechner, Y. Y., Kiryati, N., & Basri, R. (2000). Separation of transparent layers using focus. *International Journal of Computer Vision*, 39(1), 25-39.

Schenk, T., Philipp, J., Haussler, A., Hauck, A., Hermsdorfer, J., & Mai, N. (2000). A system for the study of visuomotor coordination during reaching for moving targets. *Journal of Neuroscience Methods*, 100(1-2), 3-12.

Schoumans, N., & Kooi, F. L. (2000). Binocular vision and transparent depth layers. *Perception*, 29, 15-15.

Seiler, T., Mrochen, M., & Kaemmerer, M. (2000). Operative correction of ocular aberrations to improve visual acuity. *Journal of Refractive Surgery*, 16(5), S619-S622.

Sekiyama, K., Miyauchi, S., Imaruoka, T., Egusa, H., & Tashiro, T. (2000). Body image as a visuomotor transformation device revealed in adaptation to reversed vision. *Nature*, 407(6802), 374-377.

Sekuler, A. B., Gold, J. M., Murray, R. F., & Bennett, P. J. (2000). Visual completion of partly occluded objects: Insights from behavioral studies. *Neuro-Ophthalmology*, 23(3-4), 165-168.

Sengpiel, F. (2000). Visual perception: An alternative view of perceptual rivalry. *Current Biology*, 10(13), R482-R485.

- Seredenko, M. M., & Yakuninskaya, A. E. (2000). Representing color in artificial color systems and in human psychophysics. *Journal of Optical Technology*, 67(8), 703-711.
- Shi, J. B., & Malik, J. (2000). Normalized cuts and image segmentation. *Ieee Transactions on Pattern Analysis and Machine Intelligence*, 22(8), 888-905.
- Shim, J., & Carlton, L. G. (2000). The type of visual information used by highly skilled tennis players for anticipatory movement. *Journal of Sport & Exercise Psychology*, 22, S98-S99.
- Sireteanu, R., & Rettenbach, R. (2000). Perceptual learning in visual search generalizes over tasks, locations, and eyes. *Vision Research*, 40(21), 2925-2949.
- Smith, P. L. (2000). Stochastic dynamic models of response time and accuracy: A foundational primer. *Journal of Mathematical Psychology*, 44(3), 408-463.
- Sokolov, A., Pavlova, M., & Ehrenstein, W. H. (2000). Primacy and frequency effects in absolute judgments of visual velocity. *Perception & Psychophysics*, 62(5), 998-1007.
- Sommerhalder, J., Bagnoud, M., Safran, A. B., & Pelizzone, M. (2000). Simulation of artificial vision: a setup for eccentric reading using a stabilised area of the visual field and first results. *Perception*, 29, 98-98.
- Stoffregen, T. A., Pagulayan, R. J., Bardy, B. G., & Hettinger, L. J. (2000). Modulating postural control to facilitate visual performance. *Human Movement Science*, 19(2), 203-220.
- Takeda, Y., & Yagi, A. (2000). Inhibitory tagging in visual search can be found if search stimuli remain visible. *Perception & Psychophysics*, 62(5), 927-934.
- Tanaka, H. K., & Fujita, I. (2000). Global and local processing of visual patterns in macaque monkeys. *Neuroreport*, 11(13), 2881-2884.
- Taylor, N. M., Eikelboom, R. H., van Sarloos, P. P., & Reid, P. G. (2000). Determining the accuracy of an eye tracking system for laser refractive

surgery. *Journal of Refractive Surgery*, 16(5), S643-S646.

Thibos, L. N. (2000). The prospects for perfect vision. *Journal of Refractive Surgery*, 16(5), S540-S546.

Tong, P. Y., Bassin, R. E., Enke-Miyazaki, E., Macke, J. P., Tielsch, J. M., Stager, D. R., Beauchamp, G. R., & Parks, M. M. (2000). Screening for amblyopia in preverbal children with photoscreening photographs - II. Sensitivity and specificity of the MTI PhotoScreener. *Ophthalmology*, 107(9), 1623-1629.

Tsal, Y., & Lamy, D. (2000). Attending to an object's color entails attending to its location: Support for location-special views of visual attention. *Perception & Psychophysics*, 62(5), 960-968.

Tyler, C. W., & Chen, C. C. (2000). Signal detection theory in the 2AFC paradigm: attention, channel uncertainty and probability summation. *Vision Research*, 40(22), 3121-3144.

van Ee, R., & Erkelens, C. J. (2000). Is there an interaction between perceived direction and perceived aspect ratio in stereoscopic vision? *Perception & Psychophysics*, 62(5), 910-926.

Verghese, P., McKee, S. P., & Grzywacz, N. M. (2000). Stimulus configuration determines the detectability of motion signals in noise. *Journal of the Optical Society of America A-Optics Image Science and Vision*, 17(9), 1525-1534.

Vroomen, J., & de Gelder, B. (2000). Sound enhances visual perception: Cross-modal effects of auditory organization on vision. *Journal of Experimental Psychology-Human Perception and Performance*, 26(5), 1583-1590.

Walter, P., Konigsfeld, P., Soudavar, F., & Brunner, R. (2000). Unusual visual evoked potentials in patients with age-related macular degeneration. *Ophthalmologica*, 214(5), 312-319.

Wang, C. C., Tai, S. C., & Yu, C. S. (2000). Repeating image watermarking technique by the visual cryptography. *IEEE Transactions on Fundamentals of Electronics Communications and Computer Sciences*, E83A(8), 1589-1598.

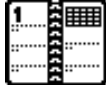
- Watt, S. J., & Bradshaw, M. F. (2000). Binocular cues are important in controlling the grasp but not the reach in natural prehension movements. *Neuropsychologia*, *38*(11), 1473-1481.
- Webster, M. A., Miyahara, E., Malkoc, G., & Raker, V. E. (2000). Variations in normal color vision. I. Cone-opponent axes. *Journal of the Optical Society of America A-Optics Image Science and Vision*, *17*(9), 1535-1544.
- Webster, M. A., Miyahara, E., Malkoc, G., & Raker, V. E. (2000). Variations in normal color vision. II. Unique hues. *Journal of the Optical Society of America A-Optics Image Science and Vision*, *17*(9), 1545-1555.
- Westheimer, G. (2000). Visual signals used in time-interval discrimination. *Visual Neuroscience*, *17*(4), 551-556.
- Wickelgren, E. A., McConnell, D. S., & Bingham, G. P. (2000). Reaching measures of monocular distance perception: Forward versus side-to-side head movements and haptic feedback. *Perception & Psychophysics*, *62*(5), 1051-1059.
- Williams, D., Yoon, G. Y., Porter, J., Guirao, A., Hofer, H., & Cox, I. (2000). Visual benefit of correcting higher order aberrations of the eye. *Journal of Refractive Surgery*, *16*(5), S554-S559.
- Wolffsohn, J. S., Cochrane, A. L., & Watt, N. A. (2000). Implementation methods for vision related quality of life questionnaires. *British Journal of Ophthalmology*, *84*(9), 1035-1040.
- Xiao, M., & Hendrickson, A. (2000). Spatial and temporal expression of short, long/medium, or both opsins in human fetal cones. *Journal of Comparative Neurology*, *425*(4), 545-559.
- Xing, J., & Heeger, D. J. (2000). Center-surround interactions in foveal and peripheral vision. *Vision Research*, *40*(22), 3065-3072.
- Yokoyama, S. (2000). Phylogenetic analysis and experimental approaches to study color vision in vertebrates, *Vertebrate Phototransduction and the Visual Cycle, Part A* (Vol. 315, pp. 312-325).
- Zhou, H., Friedman, H. S., & von der Heydt, R. (2000). Coding of border

ownership in monkey visual cortex. *Journal of Neuroscience*, 20(17), 6594-6611.

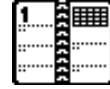
Zlatkova, M., Vassilev, A., & Mitov, D. (2000). Temporal characteristics of line orientation identification. *Perception & Psychophysics*, 62(5), 1008-1018.

**References supplied (as usual!) by:**

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# *Meetings Calendar*



## **2000**

November 4-9

Society for Neuroscience  
New Orleans, LA  
<http://www.sfn.org>

December 20

AVA Christmas Meeting  
University of Surrey  
Abstract deadline: 17 November  
Contact: [p.hibbard@surrey.ac.uk](mailto:p.hibbard@surrey.ac.uk)

## **2001**

March 21

AVA 2001 College of Optometrists, London  
Contact: [kl@psychol.ucl.ac.uk](mailto:kl@psychol.ucl.ac.uk)

April 29-May 4

ARVO 2001  
<http://www.arvo.org/arvo>

May 4-8

Vision Sciences meeting  
Sarasota, Florida  
Abstract deadline: 15 December  
<http://chuma.cas.usf.edu/~sanocki/vssupdate.html>

September 7-11

24<sup>th</sup> Pupil Colloquium, USA  
Contact: [P.A.Howarth@lboro.ac.uk](mailto:P.A.Howarth@lboro.ac.uk)  
<http://www.mailbase.ac.uk/lists-p-t/pupil/files/>