

MAY 1996

ISSUE 114



APPLIED VISION ASSOCIATION

NEWSLETTER

In this issue:

AVA '97

-Image Quality

Selected references

ISSN 0969-7314

APPLIED VISION ASSOCIATION

10 KNARESBOROUGH PLACE

LONDON SW5 OTG

Tel: 0171-373-7765 Fax: 0171-373-1143

THE APPLIED VISION ASSOCIATION IS A REGISTERED CHARITY NO.

1049146

COMMITTEE OF MANAGEMENT

- Chairman:** Dr Ian Moorhead, WX1 Division (Bld Q7), Defence Research Agency, Fort Halstead, Sevenoaks, Kent, TN14 7BP. Tel. 01959 514426. E mail: im8@ukc.ac.uk *or* I.Moorhead@ukc.ac.uk
- Vice chair** Dr Karen T Carr, Sowerby Research Centre, British Aerospace PLC, FPC 267, P.O.Box 5, Filton, Bristol BS12 7QW. Tel. 0117-9366259.
E-mail: karen.carr@uk.co.bae.src
- Treasurer:** Dr John Harris, Dept. Psychology, University of Reading, Building 3, Earley Gate, Whiteknights, Reading, RG6 2AL. Tel. 01734 318522. E-mail: sxsharis@reading.ac.uk
- Newsletter:** Dr Graham Edgar, Sowerby Research Centre, British Aerospace PLC, FPC 267, P.O.Box 5, Filton, Bristol BS12 7QW. Tel. 0117-9366192.
E-mail: graham.edgar@uk.co.bae.src
- Publicity officer:** Dr Malcolm Cook, University of Abertay, Dundee.
E-mail: m.cook@river.tay.ac.uk
- BCO rep:** The President.
- Members:** Dr Stephen Anderson, University of Aston.
E-mail: s.j.anderson@aston.ac.uk
- Dr Barnaby Reeves, 72 Saint Mary's Road, Oxford,
OX4 1OB. Tel. 01865-250963
- Dr Steve Taylor, 40 Pinewood Road, Ferndown, Bournemouth,
BH22 9RR. Tel. 01202 861480

CONTENTS

Noticeboard	4
AVA '97 - Image Quality	5
Selected references	6
Meetings calendar	12

AVA CORPORATE MEMBERS:

British Telecom Research Laboratories, Martlesham Heath, Ipswich, Suffolk
IP5 7RE. Contact: Dr D Travis.

Data Cell Ltd., Hattori House, Van Wall Business Park, Maidenhead, Berks., SL6 4UB.
Contact: Mr A Washbourn.

Institute for Human Factors TNO, P.O.Box 23, 3769 ZG Soesterberg, The
Netherlands. Contact: Dr A van Meeteren.

National Illumination Committee of Great Britain, c/o CIBSE, Delta House,
222 Balham High Road, London SW12 9BS.

Netherlands Ophthalmic Research Institute, Postbus 12141 1100 AC, Amsterdam,
The Netherlands. Contact: Dr T. J. T. van den Berg.

Pilkington Optronics, Glascoed Rd., St Asaph, Clwyd, LL17 0LL Contact:
Mr J. Foley.

Sowerby Research Centre, British Aerospace, P.O.Box 5, Filton, Bristol
BS12 7QW. Contact: Dr KT.Carr.

Deadline for copy for the next Newsletter - 4th July 1996

EDITORIAL

AVA '97. 'Image Quality' For the first time ever (I think!) the AVA Annual Meeting moves 'North of the border' to Dundee. Preliminary details are on p. 5 and further details will appear in future newsletters.

Noticeboard. Details of the GJB fund (which provides financial assistance for conference attendance) are again provided. Any people on 'soft money' who are hoping to get to a conference next year are eligible to apply. Also in this section are details of changes to the AVA committee.

Charity status. As of 29th March, the AVA has become a registered charity. This is a tremendous relief to the committee who can now devote their efforts once more to the 'normal' business of the AVA!

Noticeboard

Geoffrey J. Burton Memorial Fund

The fund was established in 1986 with the aim of providing financial assistance to students (in non-established or fixed term posts) travelling to 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 £200 and awards can be made for any conference in the calendar year in which the award falls (1997 in this case).

Applications can now be made for any conferences in 1997, although a decision on the distribution of the award(s) will not be made until the AGM of the AVA in 1997.

Full details of the GJB Memorial Fund are contained in the January issue (No. 112) of the Newsletter.

AVA AGM

Following the AVA AGM in Reading there have been a number of changes to the committee. Professors David Foster and Alastair Gale, after many years of sterling service to the AVA have resigned from the committee. Many thanks to them both for all their efforts!

Ian Moorhead as Chairman is now supported by Karen Carr as Vice Chair. Two people who were co-opted onto the committee last year have now been elected onto the committee. These are Drs Malcolm Cook and Steve Taylor. Malcolm Cook is taking over Karen's job as publicity officer and is also responsible for organising the AVA annual meeting in 1997.

In an effort to bring further 'new blood' onto the committee, Mark Scase has been co-opted and, in the fullness of time, will be taking over the job of editing the Newsletter. Thanks Mark!

AVA '97

Image Quality

9th - 11th April 1997
(provisional)

University of Abertay, Dundee

The 1997 Annual Meeting of the Applied Vision Association will be based around the themes of image quality, image attributes and image coding.

The meeting will be organised by Dr Malcolm Cook. Full details will appear in future newsletters, but to register an interest please contact:

Dr Malcolm Cook,

University of Abertay,
Bell Street,
Dundee,
DD1 1HG

E-mail: m.cook@river.tay.ac.uk

Selected References

Correlation Between the Progression of Optic Disc and Visual-Field Changes in Glaucoma.
Miglior S, Brigatti L, Lonati C, Rossetti L, Pierrottet C, Orzalesi N, *Current Eye Research*, 1996, Vol.15, No.2, pp.145-149

Measurement of the Speed Accuracy Operating Characteristic For Visual-Search. Drury CG, Forsman DR, *Ergonomics*, 1996, Vol.39, No.1, pp.41-45

Relations Between Individual-Differences in Oculomotor Resting States And Visual Inspection Performance.

Best PS, Littleton MH, Gramopadhye AK, Tyrrell RA, *Ergonomics*, 1996, Vol.39, No.1, pp.35-40

Visual Object Recognition.

Logothetis NK, Sheinberg DL, *Annual Review of Neuroscience*, 1996, Vol.19, pp.577-621

Sensitivity to Full-Field Visual Movement Compatible With Head Rotation -Variations With Eye-In-Head Position.

Harris LR, Lott LA, *Visual Neuroscience*, 1996, Vol.13, No.2, pp.277-282

The Effects of Luminance and Chromatic Background Flicker On the Human Visual-Evoked Potential

Brigell M, Strafella A, Parmeggiani L, Demarco PJ, Celesia GG, *Visual Neuroscience*, 1996, Vol.13, No.2, pp.265-275

Visual-Display Delay Effects on Pilot Performance.

Wildzunas RM, Barron TL, Wiley RW, *Aviation Space and Environmental Medicine*, 1996, Vol.67, No.3, pp.214-221

Visual-Field Defects in Esotropic Cats - A Developmental Consequence of The Squint.

Distefano M, Gargini C, Romano F *Behavioural Brain Research*, 1996, Vol.74, No.1-2, pp.161-166

A New Color-Vision Test For Clinical Use

Kon CH, Dealwis D, *Eye*, 1996, Vol.10, No.Pt1, pp.65-74

Implicit Redundant Targets Effect in Visual Extinction

Marzi CA, Smania N, Martini MC, Gambina G, Tomelleri G, *et al. Neuropsychologia*, 1996, Vol.34, No.1, pp.9-22

Wrong Way Failure of Visual Suppression of the Vestibuloocular Reflex

Crevits L, Lemmerling N, *Neuro-Ophthalmology*, 1996, Vol.16, No.1, pp.39-41

Object and Spatial Visual Working-Memory Activate Separate Neural Systems in Human

Cortex

Courtney SM, Ungerleider LG, Keil K, Haxby JV, Cerebral Cortex, 1996, Vol.6, No.1, pp.39-49

Parallel-Processing in Visual Short-Term-Memory

Magnussen S, Greenlee MW, Thomas JP, Journal of Experimental Psychology-Human Perception and Performance, 1996, Vol.22, No.1, pp.202-212

The Visual-Perception of 3-Dimensional Length

Norman JF, Todd JT, Perotti VJ, Tittle JS, Journal of Experimental Psychology-Human Perception and Performance, 1996, Vol.22, No.1, pp.173-186

Visual-Search For Conjunctions of Motion and Form - Display Density And Asymmetry Reversal

Muller HJ, Found A, Journal of Experimental Psychology-Human Perception and Performance, 1996, Vol.22, No.1, pp.122-132

Display Density Influences Visual-Search For Conjunctions of Movement And Orientation

Berger RC, Mcleod P, Journal of Experimental Psychology-Human Perception and Performance, 1996, Vol.22, No.1, pp.114-121

Fine-Grain of the Neural Representation of Human Spatial Vision

Smallman HS, Macleod DIA, He S, Kentridge RW, Journal of Neuroscience, 1996, Vol.16, No.5, pp.1852-1859

An Adult-Like Pattern of Ocular Dominance Columns in Striate Cortex Of Newborn Monkeys Prior to Visual Experience

Horton JC, Hocking DR, Journal of Neuroscience, 1996, Vol.16, No.5, pp.1791-1807

Modifications with Aging in the Role Played by Vision and Proprioception for Movement Control

Chaput S, Proteau L, Experimental Aging Research, 1996, Vol.22, No.1, pp.1-21

The Psychometric Function For Letter Recognition - Does It Vary Across the Visual-Field

Strasburger H, Journal of Psychophysiology, 1995, Vol.9, No.4, pp.378-379

Less Segregated Processing of Visual Information in V2 Than in V1 of The Monkey Visual-Cortex

Tamura H, Sato H, Katsuyama N, Hata Y, Tsumoto T, European Journal of Neuroscience, 1996, Vol.8, No.2, pp.300-309

A Systematic Map of Direction Preference in Primary Visual-Cortex

Weliky M, Bosking WH, Fitzpatrick D, Nature, 1996, Vol.379, No.6567, pp.725-728

Reading-Evoked Visual Dimming

Manor RS, Yassur Y, Hoyt WF, American Journal of Ophthalmology, 1996, Vol.121, No.2, pp.212-214

Depression and Disability in Older-People With Impaired Vision - A Follow-Up-Study
Rovner BW, Zisselman PM, Shmueliydulitzki Y, Journal of the American Geriatrics Society,
1996, Vol.44, No.2, pp.181-184

Standardizing the Measurement of Visual-Fields For Clinical Research - Guidelines From the
Eye Care Technology Forum
Johnson CA, Ophthalmology, 1996, Vol.103, No.1, pp.186-189

Standardizing the Measurement of Visual-Acuity For Clinical Research Studies - Guidelines
From the Eye Care Technology Forum
Ferris FL, Bailey I, Ophthalmology, 1996, Vol.103, No.1, pp.181-182

Baltimore Vision Screening Project
Preslan MW, Novak A, Ophthalmology, 1996, Vol.103, No.1, pp.105-109

Activity Changes in Early Visual-Cortex Reflect Monkeys Percepts During Binocular-Rivalry
Leopold DA, Logothetis NK, Nature, 1996, Vol.379, No.6565, pp.549-553

Visual-Perception - Rivalry and Consciousness
Crick F, Nature, 1996, Vol.379, No.6565, pp.485-486

Indeterminate Organization of the Visual-System
Hilgetag CC, O'neill MA, Young MP, Science, 1996, Vol.271, No.5250, pp.776-777

Sub-Pixel Accuracy - Psychophysical Validation of An Algorithm For Fine Positioning and
Movement of Dots On Visual-Displays
Georgeson MA, Freeman TCA, Scott-Samuel NE, Vision Research, 1996, Vol.36, No.4,
pp.605-612

Automatic-Control of Saccadic Eye-Movements Made in Visual Inspection Of Briefly
Presented 2-D Images
Mannan S, Ruddock KH, Wooding DS, Spatial Vision, 1995, Vol.9, No.3, pp.363-386

The Characteristics of Eye-Movements Made During Visual-Search With Multiple Element
Stimuli
Binello A, Mannan S, Ruddock KH, Spatial Vision, 1995, Vol.9, No.3, pp.343-362

Visual Scanning Patterns of Radiologists Searching Mammograms
Krupinski EA, Academic Radiology, 1996, Vol.3, No.2, pp.137-144

Visual Memory For Novel Shapes - Implicit Coding Without Attention
Deschepper B, Treisman A, Journal of Experimental Psychology-Learning Memory and
Cognition, 1996, Vol.22, No.1, pp.27-47

Visual Problems of the Aging Musician
Kadrmas EF, Dyer JA, Bartley GB, Survey of Ophthalmology, 1996, Vol.40, No.4, pp.338-341

A Simplified Closed-Circuit Television Low-Vision Aid

Perlstein SH, Chubak GS, Edelstein MS, *Annals of Ophthalmology-Glaucoma*, 1995, Vol.27, No.6, pp.363-365

A 3-Year Follow-Up-Study of Visual Hallucinations in Patients With Macular Degeneration

Holroyd S, Rabins PV, *Journal of Nervous and Mental Disease*, 1996, Vol.184, No.3, pp.188-189

Visual-Vestibular Interaction During Off-Vertical Axis Rotation

Furman JM, Mendoza JC, *Journal of Vestibular Research-Equilibrium & Orientation*, 1996, Vol.6, No.2, pp.93-103

Visual Scene Properties Relevant For Simulating Low-Altitude Flight - A Multidimensional-Scaling Approach

Kleiss JA, *Human Factors*, 1995, Vol.37, No.4, pp.711-734

Components of Visual-Acuity Loss in Strabismus

Freeman AW, Nguyen VA, Jolly N, *Vision Research*, 1996, Vol.36, No.5, pp.765-774

Stationary and Pursuit Visual Fixation Share Similar Behavior

Boman D, Braun D, Hotson J, *Vision Research*, 1996, Vol.36, No.5, pp.751-763

The Effect of Dark and Equiluminant Occlusion On the Interocular Transfer of Visual Aftereffects

Timney B, Symons LA, Wilcox LM, O'shea RP, *Vision Research*, 1996, Vol.36, No.5, pp.707-715

Color and Luminance Vision in Human Amblyopia - Shifts in Isoluminance, Contrast Sensitivity Losses, and Positional Deficits

Mullen KT, Sankeralli MJ, Hess RF, *Vision Research*, 1996, Vol.36, No.5, pp.645-653

A Big Step Along the Visual Pathway

Hubel D, *Nature*, 1996, Vol.380, No.6571, pp.197-198

Spatial-Frequency Sweep Pattern-Reversal VER Acuity vs Snellen Visual-Acuity - Effect of Optical Defocus

Katsumi O, Arai M, Wajima R, Denno S, Hirose T, *Vision Research*, 1996, Vol.36, No.6, pp.903-909

A Computational Model of Visual Hallucinations in Migraine

Reggia JA, Montgomery D, *Computers in Biology and Medicine*, 1996, Vol.26, No.2, pp.133-141

Availability of Visual and Proprioceptive Afferent Messages and Postural Control in Elderly Adults

Hay L, Bard C, Fleury M, Teasdale N, *Experimental Brain Research*, 1996, Vol.108, No.1, pp.129-139

Visual-Evoked Potential Evidence For Magnocellular System Deficit In Dyslexia
Kubova Z, Kuba M, Peregrin J, Novakova V, Physiological Research, 1996, Vol.45, No.1,
pp.87-89

Activation of the Primary Visual-Cortex By Braille Reading in Blind Subjects
Sadato N, Pascual-Leone A, Grafman J, Ibanez V, Deiber MP, Dold G, Hallett M, Nature, 1996,
Vol.380, No.6574, pp.526-528

Global Plasticity in Adult Visual-Cortex Following Reversal of Visual Input
Sugita Y, Nature, 1996, Vol.380, No.6574, pp.523-526

Binocular Interactions and Disparity Coding in Area 21a of Cat Extrastriate Visual-Cortex
Wang C, Dreher B, Experimental Brain Research, 1996, Vol.108, No.2, pp.257-272

Derivation and Test of An Optimum Overlapping-Lobes Model of Visual-Search
Baveja A, Drury CG, Karwan MH, Malon DM IEEE Transactions On Systems Man and
Cybernetics Part A-Systems And Humans, 1996, Vol.26, No.1, pp.161-168

Small-Target Random-Dot Stereogram and Binocular Suppression Testing For Preschool
Vision Screening
Simons K, Avery KE, Novak A, Journal of Pediatric Ophthalmology & Strabismus, 1996,
Vol.33, No.2, pp.104-113

Infant Color-Vision - Motion Nulls For Red-Green Vs Luminance-Modulated Stimuli in
Infants and Adults
Teller DY, Palmer J, Vision Research, 1996, Vol.36, No.7, pp.955-974

Illusory Surface Perception and Visual Organization
Kumaran K, Geiger D, Gurvits L, Network-Computation in Neural Systems, 1996, Vol.7,
No.1, pp.33-60

Visual-Acuity and Retinoscopy of Preterm and Full-Term Infants During The First Year of
Life
Rodriguez A, Villarreal J, Paez JH, Annals of Ophthalmology-Glaucoma, 1996, Vol.28, No.1,
pp.46-53

The Selective Effect of Optical Defocus On Detection and Resolution Acuity in Peripheral-
Vision
Anderson RS, Current Eye Research, 1996, Vol.15, No.3, pp.351-353

Processing Fragmented Forms and Strategic Control of Orienting in Visual Neglect
Humphreys GW, Boucart M, Datar V, Riddoch MJ, Cognitive Neuropsychology, 1996, Vol.13,
No.2, pp.177-203

Effect of Window Size On Detection Acuity and Resolution Acuity For Sinusoidal Gratings in
Central and Peripheral-Vision
Anderson RS, Evans DW, Thibos LN, Journal of the Optical Society of America A-Optics
Image Science and Vision, 1996, Vol.13, No.4, pp.697-706

Revealing the Distinction Between Perception and Cognition Through Intra-Individual Variability of Visual-Evoked Responses
Constantinescu VD, International Journal of Bio-Medical Computing, 1996, Vol.40, No.3, pp.169-178

Cooperative Organization of Connectivity Patterns and Receptive-Fields In the Visual Pathway - Application to Adaptive Thresholding
Mira J, Manjarres A, Ros S, Delgado AE, Alvarez JR, Lecture Notes in Computer Science, 1995, Vol.930, pp.15-23

Visual Performance and Visual Clarity Under Electric Light-Sources .1. Visual Performance
Vrabel PL, Bernecker CA, Mistrick RG, Journal of the Illuminating Engineering Society, 1995, Vol.24, No.1, P.69 and Discussion, Berman S, Vol.24, No.1, pp.77-80

Changes of Visual Function and Visual Ability in Daily-Life Following Cataract-Surgery
Abrahamsson M, Carlsson B, Tornqvist M, Sterner B, Sjostrand J, Acta Ophthalmologica Scandinavica, 1996, Vol.74, No.1, pp.69-73

Visual-Acuity and the Causes of Visual-Loss in Australia - the Blue Mountains Eye Study
Attebo K, Mitchell P, Smith W, Ophthalmology, 1996, Vol.103, No.3, pp.357-364_

Meetings Calendar (cont.)

1996

- Oct. 9-13 *Joint European Research Meetings in Ophthalmology and Vision (JERMOV).* Montpellier, France. Contact: Chairman Congrès, 43 Place Vauban - BP 9173, 34042 Montpellier Cedex 1, France. Tel. +33 67 159900 (**ad** 31/5/96).
- Nov. 22-24 *Workshop on sensorimotor coordination: amphibians, models and comparative studies.* Sedona, Arizona. Contact: Kiisa Nishikawa. E-mail: Kiisa.Nishikawa@nau.edu (**ad** 1/5/96).
- Dec. 19-20 *Framework for immersive virtual environments (FIVE).* Pisa, Italy. Contact: Lorna Kyle, Dept. Computer Science, Queen Mary and Westfield College, London, E1 4NS. E-mail: lorna@dcs.qmw.ac.uk (**ad** 30/6/96)

* AVA Involvement

^ Details in this issue

ad = Abstract deadline

Meetings Calendar

1996

- May 5-6 Symposium on, '*Colour Appearance and Measurement*'. Florida, USA. Contact: Danny Rich, Datacolor International, 5 Princess Rd., Lawrenceville, NJ 08648, USA.
- June 15-18 *AIC Interim Meeting, 'Colour and Psychology'*. Göteborg, Sweden. Contact: Prof. Lars Sivik, Inst. of Vis. Env. Res., Kullaviks Skogsväg 4, S-429 35 Kullavik, Sweden. e-mail: sivik@psy.gu.se (**ad** 1/1/96).
- June 26 *A tutorial on building synthetic landscapes and planets*. University of Manchester, UK. Contact: Ursula Hayes, Dept. Computer Science. Uni. of Manchester. M13 9PL. E-mail: ursula@cs.man.ac.uk
- Sept. 9-12 *7th British Machine Vision Conference (BMVC96)*, University of Edinburgh, UK. Contact: Gillian M. Hayes. E-mail: gmh@aifh.ed.ac.uk (**ad** 29/4/96).
- Sept. 9-13 *19th European Conference on Visual Perception (ECVP)*. Strasbourg, France. Contact: Congrès Louis Pasteur, 19th ECVP, 19 rue du Maréchal Lefèbvre, F-67100 Strasbourg, France. Tel: (33) 88 79 15 00 (**ad** 25/2/96).

* AVA Involvement
^ Details in this issue

ad = Abstract deadline

(Cont. p. 11)