

DALTONIANA

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The bulletin of the International Colour Vision Society

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Daltoniana on the web

Welcome to the 9th edition of the web based **Daltoniana**. This edition will be transmitted by email and mailed to members from locations in North America, Europe and Australasia.

Contents

Officers and Committee
General Secretary's report
Verriest medal
ICVS Cambridge 2001
Abstracts accepted
Registration reminder
Instructions to authors
Previous proceedings
Abstracts

Officers and Committee

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General Secretary's report

It is obvious from the abstract titles included herein that the Cambridge meeting will be exciting. We are near to arranging a venue for the proceedings and instructions for the contributors are included. The articles will be published as a book rather than as a special issue of a journal. We continue to investigate possibilities for a more permanent venue, however. I am pleased to announce that the Verriest Medal will be awarded to Donald MacLeod this year. Finally, nominations will be open at the business meeting for General Secretary and for members of the Board of Directors.

Verriest medal

The International Colour Vision Society is pleased to announce that the Verriest Medal will be awarded at the biennial meeting in Cambridge, England to Donald I. A. MacLeod, Professor of Psychology at the University of California, San Diego. This award is bestowed by the Society to honor long-term contributions to the field of color vision. Dr. MacLeod's empirical and theoretical contributions include some of the most striking advances in vision science in the second half of the twentieth century.

Among his many contributions, MacLeod (with Boynton, 1979) developed a constant luminance cone excitation chromaticity space. The MacLeod-Boynton chromaticity diagram is widely used, and has become the preferred way of expressing chromatic discrimination data. The Commission Internationale de l'Eclairage will include a version of the MacLeod-Boynton chromaticity diagram in its new physiologically based colorimetric system. With Eisner (1980), he provided experimental evidence that the S-cones do not contribute to flicker photometric sensitivity. With Williams and Hayhoe (1981), MacLeod psychophysically mapped the S-cone distribution in the fovea. With Webster (1983, 1987), MacLeod analyzed individual differences in cone receptor spectral sensitivities before molecular genetics provided a cellular basis for functional polymorphism. The conclusions of the Webster-MacLeod analysis are concordant with modern molecular genetic studies.

The selection committee members were: Samir S. Deeb, Joel M. Pokorny, Andrré Roth, Luiz Carlos Silveira, Shoko Tanabe, Françoise Viénot and John S. Werner

ICVS Meeting 2001 (web page <http://www.icvs2001.org.uk/>)

Cambridge Symposium, Friday July 13th to Tuesday July 17th, 2001.

Abstracts accepted

Abraham, Gy and Nagy, B. V.

Colour identification of CVD-s based on Opponent Colour Signals

Ahnelt, P., Moutairou, K., Gloesmann, M. and Heiss, A.

Lack of S-opsin expression in the african porcupine (Hystrix cristata) and other mammals. Is the evolutionary persistence of S-cones a paradox?

Alleysson, D. and Herault, J.

Luminance and color opponency are not a consequence of neurons wiring in the retina

Amano, K. and Foster, D.

Colour constancy under orthogonal-daylight changes in red-green colour deficiency

Asakawa, K. Kitahara, K., Kandatsu, A., Nakadomari, S., Takeuchi, H., Ichihara, Y., Miyauchi, S.

Is the human V4 complex a color center or not? - An fMRI study

Baraas, R. C. and Jurkutaitis, M.

Chromatic stimulation: on luminance and contrast ratios

Barbur, J. L., Harlow, J. A. and French, K.

Properties of feature-tracking mechanisms for colour-defined motion perception

Barbur, J. L., Harlow, J. A. and Plant, G.

Selective loss of "GREEN" sensitivity following damage to ventral occipito-temporal cortex

Birch, J.

Extreme anomalous trichromatism

Bowmaker, J. K., Parry, J. W. L. and Mollon, J. D.

The arrangement of L and M cones in human and a primate retina

Buck, S. and Knight, R.

Stimulus duration affects rod influence on hue perception

Campenhausen, V. von and Schramme, J.

Some properties of the physiological colour system

Carroll, J., Neitz, M. and Neitz, J.

Variation in ERG-derived L/M cone ratio among trichromats is linked to the X-chromosome photopigment gene array

Crognale, M. A., Nolan, J. B. and Webster, M. A.

Color appearance and central color coding in a case of congenital cone dysfunction

Dain, S. J.

Evaluation of the "Colour Vision Testing Made Easy" test

Dain, S. J. and Hughes, L.E.

Survey of colour vision demands in fire fighting

Deeb, S. S., Jagla, W., Jaegle, H., Hayashi, T. and Sharpe, L. T.

Genotypic variation in multi-gene dichromats

De Luca, E., Gegenfurtner, K. R. and Sharpe, L. T.

Cone contrast sensitivity in trichromats and dichromats

Erb, C. and Dfhn, W.

Development of the new portable illuminance- and colormeter HCT-99

Erb, C., Mocz-Richter, A., Adler, M. and Zrenner, E.

Comparison of the results of linear and circular arrangement of the hue arrangement test Roth 28-hue (E) desaturated

Erb, C., Schroeder, A. and Winter, R.

Are there any differences in colour vision between patients with coronary artery disease (CAD) and patients with primary open-angle glaucoma and CAD

Foster, D. H. and Amano, K.

Tritanopic colour constancy under daylight changes?

Hahn, C.

Evaluation of Hahn Double 15 Hue Test

Hovis, J.

Lantern Tests: one light or two?

Ichihara, Y. G., Nakadomari, S., Takeuchi, H., Miyauchi, S., Kitahara, K., and Komachiya, A.

Area V4 is activated by Ishihara plate pattern in segregating figures from its background but not by its same colour of random dot pattern

Jacobs, G. H. and Deegan, J. F.

Prosimians and the origins of primate trichromacy

Jacobs, G. H., Calderone, J. B., Sakai, T., Lewis, G. P. and Fisher, S. K.

Loss and recovery of S and M cone function in retinal detachment

Jaegle, H., Hood, D. C., Albrecht, J., Yu, A., Zhang, X. and Sharpe, L. T.

Cone-isolating multifocal ERGs and VEPs: implications for the magno- and parvo-cellular pathways

Jagla, W., Breitsprecher, T., Jaegle, H., Kucsera, I., Kovacs, G., Wissinger, B., Deeb, S. and Sharpe, L. T.

Hybrid pigment genes, dichromacy and anomalous trichromacy

Kitahara, K., Yamaguchi, T., Hayashi, T., Ohkido, M., Nishio, Y. and Kubo, A.

Polymorphism in L- and M-cone pigment genes in color-normal Japanese males and both their M/L cone ratios and red/green color opponent system

Knoblauch, K.

Visualizing an observer's matches in an alien color space

Kumegawa, K., Kitihara, K., Nakano, T., Kandatsu, A., Nakadomari, S., Takeuchi, H. and Miyauchi, S.
Separation of the magnocellular activity from the parvocellular activity in the human lateral geniculate nucleus - A tentative fMRI study

Kurtenbach, A., Jaegle, H., Rilk, A., Jagla, W. and Sharpe, L. T.
Rayleigh matches and photopigment optical density

Lanthony, P.
Panel D 15: matching versus classing

Lee, B. B.
Receptive field asymmetries and chromatic sensitivity of cells of the parvocellular (PC) pathway

Le Rohellec, J., Brettel, H. and Vienot, F.
Contribution of achromatic and chromatic contrast signals to Fechner-Benham subjective colours

McCann, J. I.
Calculating color appearances in complex and simple images

MacLeod, D. I. A.
Color discrimination, color constancy and natural scene statistics (Verriest Lecture)

McKeefry, D. J., Parry, N. R. A. and Murray, I. J.
Reaction times in isoluminant colour space

McMahon, C., Neitz, J. and Neitz, M.
Comparison of human and monkey pigment gene promoters to evaluate DNA sequences proposed to govern L:M cone ratio

Mantjarvi, M. and Maaranen, T.
Color vision in central serous chorioretinopathy

Marshak, D.
A model of the midget ganglion cell surround

Mattiello, M. L. F. de and Maneiro, M.
Sensitivity to movement of configurations of achromatic and chromatic points in amblyopic patients

Mattiello, M. L. F. de, Salinas, H. and Benavente, C.
Monoptic and dichoptic colour measurement using three and four primary colours

Moreland, J. D. and Westland, S.
Macular pigment: Nature's notch filter

Nakadomari, S., Kitahara, K., Kandatsu, A., Takeuchi, H., Miyauchi, S.
A new and timesaving method for the evaluation of human brain activity using functional magnetic resonance imaging (fMRI) and its application to the evaluation of human visual cortex activity

Nagy, A. L.
Color mechanisms in detection of targets among heterogeneous distractor stimuli

Neitz, J., Bollinger, K., Sjoberg, S. A., Neitz, M.
The color vision defect in deuteranomalous trichromacy is caused by the absence of M cone

photopigment gene expression

Neitz, M., Bollinger, K., Sjöberg, S. A., Neitz, J.

Correlation between being the last gene of a 3-gene array with an absence of expression from that gene

Nerger, J. L., Haase, K. A. and Volbrecht, V. J.

The influence of rods on color naming during dark adaptation

Paramei, G. V. and Jaschinski, W.

Convergence as a function of chromatic contrast: a possible contributor to depth perception?

Paramei, G. V., Kutsch, H. B. and Cavonius, C. R.

Faster temporal processing in the red-green system is most pronounced for small colour differences

Piro, A., Tagarelli, G., Bulò, A., Refatillari, E. and Tagarelli, A.

Colourblindness in Albania and in the Albanian ethnic minority of Consenza province (Calabria - Southern Italy): Preliminary results

Robson, A. G., Kulikowski, J. J., Korostenskaja, M., Neveu, M., Hogg, C. R. and Holder, G. E.

Integration times reveal mechanisms responding to isoluminant chromatic gratings: a two-centre Visual Evoked Potential study

Ronchi, R. L.

Revisiting the area balance principle

Scholl, H. P. N., Kremers, J., Vonthein, R., White, K. and Weber, B. H. F.

L- and M-cone driven electroretinograms in Stargardt's macular dystrophy - Fundus flavimaculatus

Scheibner, H. and Cleveland, S.

Colour space transformations: mapping kernels singled out by perceptual criteria

Schertler, G. F. X.

The structure of rhodopsin

Schroeder, A., Erb, C., Schwartz, G., Radermacher, J. and Winter, R.

Color-vision disturbances in patients with arterial hypertension

Sharpe, L. T., Traenkner, D., Seifert, R., Jaegle, H., Kohl, S., Wissinger, B. and Kaupp, B.

The molecular, cellular and functional basis of achromatopsia

Shevell, S. and Cao, D.

Chromatic assimilation: evidence for a neural mechanism

Silveira, L. C. L., Damim, E. T. B., Pinheiro, M. C. N., Rodrigues, A. R., Moura, A. L. A. and Mello, G. A.

Visual dysfunction in Amazonian gold miners exposed to metallic mercury vapour

Smith, V. C. and Pokorny, J.

Psychophysical correlates of Parvo- and Magno-cellular function

Spalding, J. A. B.

The diagnostic skill of doctors with congenital colour vision deficiency

Stanikunas, R., Daugirdiene, A., Vaitkevicius, H. and Kulikowski, J. J.

The effect of colour contrast and adaptation to background on colour constancy

Stockman, A.

Light adaptation and changes in the S- and M-cone temporal responses

Sun, H., Lee, B. B. and Ruettinger, L.

Coding of position of achromatic and chromatic edges by retinal ganglion cells

Tagarelli, A., Piro, A., Conforti, G., Grassivaro Gallo, P., Lantieri, P. B., Panza, M., Risso, D. and Tagarelli, G.

Colourblindness: An inherited anomaly showing great psychological and pedagogical impact

Tanabe, S., Ichikawa, K., Hukami, K., Saito, Y. and Nakashima, S.

Monozygotic twin sisters who have clinically different color vision

Tanaka, Y., Kitahara, K., Kandatsu, A., Nakadomari, S., Takeuchi, H. and Miyauchi, S.

Color processing in human V4 is different from that in V1 - an fMRI study

Wolf, K. and Hurlbert, A.C.

The Effect of Global Contrast Distribution on Colour Appearance

van Norren, D., Zagers, N., Berendschot, T. and van de Kraats, J.

All (inert) pigments in a flash

Ventura, D. F., Silveira, L. C. L., Rodrigues, A. R., Nishi, M., De Souza, J. M., Gualtieri, M., Bonci, D., Nunes, A. P. and Costa, M. F.

Preliminary norms for the Cambridge Colour Test

Vorobyev, M.

Receptor noise and colour thresholds

Registration details (repeated from previous Daltoniana)

Accommodation for the meeting is available in Peterhouse, the oldest college of the University. This is pleasant accommodation in student rooms at a cost of £31 per night. Accommodation in Peterhouse can be booked through the organisers at the same time as registering. The rooms in Peterhouse are for single occupancy, and children under 14 are not allowed in the College. Our web site offers a variety of alternative accommodation in guest houses and hotels, which should be booked independently of the conference organisers. We recommend reserving your accommodation early and with circumspection, since July is high season in Cambridge and hotels are in a sellers' market.

As is the tradition of the International Colour Vision Society, there will be a single inclusive registration fee, to cover the scientific sessions, three lunches, three dinners, refreshments throughout the meeting, and an excursion. Until March 1, the registration fees are less:

Standard:	£200
Pre-doctoral student:	£165
Accompanying person:	£150

The registration fee for accompanying persons covers the receptions, three dinners and the excursion. Owing to the limited size of the lecture theatre and the Society's desire to retain the traditional character of its meetings, the total number of registrants will be 120. The Directorial Committee has determined that preference should be given to those who were paid-up members of the Society on January 1, 2001.

A copy of the registration form was sent with the February 2001 Daltoniana or may be downloaded from <http://orlab.optom.unsw.edu.au/icvs/icvs.registration.pdf>

The Social Programme will include the following events:

- *Friday evening:* Private reception in the Fitzwilliam Museum and an introduction to Renaissance Colourists by the Director, Duncan Robinson.
- *Saturday evening:* Garden party in Emmanuel College, beside the pond in which Thomas Young observed the interference of waves.
- *Sunday afternoon:* Excursion
- *Monday evening:* Private reception at No. 1 Trinity Street, which has been in continuous use as a bookshop since 1581, longer than any other in the world.

Enquiries about the meeting should be directed to Professor J. D. Mollon, Department of Experimental Psychology, University of Cambridge, Downing Street, Cambridge CB2 3EB, United Kingdom.

ICVS 2001. Publication of Proceedings

Arrangements are being made to publish the Proceedings of the Cambridge symposium as an independent book. The Proceedings will be refereed. If you would like to submit a paper for the Proceedings, please deliver a short manuscript at the meeting. (It will not be possible to consider manuscripts delivered after the meeting.) The material should not have been published elsewhere. It has always been the Society's policy to consider clinical papers, case reports, and descriptions of tests.

The manuscript should not exceed 3000 words; 500 words should be deducted for each figure (There will be a page charge, of the order of \$100, for longer manuscripts). After the refereeing is complete, we shall need an electronic copy of the manuscript for submission to the publishers; but initially ­ at the meeting ­ what we need are three hard copies of the manuscript, double-spaced. Electronic copies should not be submitted at this stage.

Since the Society encompasses a range of academic disciplines, there is no rigid format for the papers; but the Proceedings volumes XII and XIII may be taken as a general guide and many papers will fit into the traditional structure of Introduction, Methods, Results and Discussion. For the very short papers required, the last two sections could in many cases be combined. Please supply a very short abstract, no more than two or three sentences in length.

It will help the type-setting later, if you use minimal formatting in preparing your text. Please do not right-justify the text and, above all, do not insert carriage returns or paragraph marks at the end of each line of text within a paragraph. Leave major sub-headings (e.g. Introduction, Methods) left-justified on a separate line, in plain text. Italicize minor subheadings (e.g. *Subjects*, *Stimuli*) and place them on the same line as the following text.

References in the text should be in the name-and-date format, and the bibliography should conform to the conventions of the journal *Vision Research* e.g:

Zrenner, E. & Gouras, P. (1981). Characteristics of the blue sensitive cone mechanism in primate retinal ganglion cells. *Vision Research*, 21, 1605-1609.

Kamermans, M. & Spekreijse, H. (1995). Spectral behaviour of cone-driven horizontal cells in teleost retina. In: N.N. Osborne & G. J. Chader, *Progress in retinal and eye research* (pp. 313-360). Oxford: Pergamon Press.

Polyak, S. L. (1941). *The retina*. Chicago: Chicago University Press.

Please do not include unnecessary references simply because they are in your EndNote library.

Figures should be in a form suitable for direct reproduction. To help give the book a uniform appearance, please use the font Times New Roman for all lettering. Colour figures can be considered, in cases where colour does genuinely assist the reader's understanding. It is the author's responsibility to obtain written permission to reproduce material that has appeared elsewhere.

Previous proceedings

The International Colour Vision Society Proceedings Volumes for 1995 (Pau), 1997 (Ghent) & 1999 (Goettingen) are available.

To stimulate sales of the Proceeding volumes, we are offering them to all ICVS members, including

new, student and retired members, at reduced prices. The price per volume, including postage, is DM 50 or 100 (depending upon volume) by bank transfer or EUROcheque and DM 56 or 110 (depending upon volume) by credit card. Please fill in the following section and fax it to Ted Sharpe (+49-7071-29-5271) or send him an e-mail (ted.sharpe@uni-tuebingen.de).

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