

DALTONIANA

NEWSLETTER OF THE INTERNATIONAL RESEARCH GROUP ON COLOUR VISION DEFICIENCIES

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July 1990

No. 68

IRGCVD News

IRGCVD and AIC Symposia and Joint IRGCVD-AIC Meeting all together in June 1991, Australia!

Arrangements for the XIth IRGCVD Symposium are progressing well. Three invited speakers have agreed to give papers on the principle topics: Dr C Weitz on the Molecular Genetics of Colour Vision Deficiencies, Prof B Cole on Occupational Consequences of Colour Vision and Prof H Sperling on Spatial Aspects of Colour Vision. Our local organiser, Dr Stephen Dain, reports the splendid news that some grant money has been guaranteed to assist overseas students, who are presenting papers, with travel expenses and he has arranged a joint one-day meeting on "Colour Vision Mechanisms" with our sister organisation the AIC. You will find, with this issue of Daltoniana, a wealth of useful information relating to the IRGCVD Symposium, the joint IRGCVD-AIC meeting and the AIC's own Symposium all taking place in Sydney as well as the CIE meeting in Melbourne. What a magnificent galaxy of colour related meetings, all happening within a 3 week period!

Abstract and registration-accommodation forms for the IRGCVD and IRGCVD-AIC meetings are included with this issue. Please note that poster sessions will have their own time allocation in the programme. Dr Dain has provided a selection of his e-mail addresses for the adventurous! The e-mail facility gives those authors, who produce their best literary work under time pressure, a splendid opportunity for cliff-hanging suspense. But, he warns us that e-mail delivery time varies from seconds to days!

Membership Fees

New fees were announced in Daltoniana 67. These were £UK30 (full member) and £UK10 (student and retired member). The corresponding amounts are \$US50 and \$US15 for those who pay to the Secretary-Treasurer for the Americas, Dr Bruce Drum.

The new fees, which reflect improved services to members and increased costs, are now in effect. The full-member fees for 1990 and 1991 should cover the cost of the proceedings of the XIth Symposium (Sydney 1991). Renewal notices issued by the Treasurer to some members contained a typographical error incorrectly specifying the Xth Symposium.

Normally, the cost of the biennial proceedings would be recouped by the full-member fees for two years. To preserve equity and to cover costs, a new full-member, joining in a Symposium year, would be required to pay a special increment of £UK20 (\$US35).

Congratulations

On behalf of all IRGCVD members, Daltoniana congratulates Jan Kulikowski on his election to a personal chair at the University of Manchester Institute of Science and Technology.

Necrology

Members will be saddened to learn of the death of Dr Claude Magis.

Literature Survey

La dyschromatopsie chez les personnes exposées professionnellement aux solvants organiques (Dyschromatopsia in workers exposed to organic solvents) L Blain and D Mergler. J Fr d'Ophtalmol, 1986, 9, 2, 127-133.

Chromatic discrimination loss was evaluated with the Lanthony desaturated D15 test among 89 workers professionally exposed to organic solvents and 114 non-exposed workers. Quantitative and qualitative analysis of the results reveal the following:

- among the non-exposed workers, the prevalence of tritanomalies and general confusions increase with age;

- among the exposed workers protan, deutan or scotopic loss were observed together with tritanomaly. Chromatic discrimination impairment may be an important indication of neuro-ophthalmologic changes associated with professional exposure to organic solvents - J. Vola.

Méthode rapide - test 100 Hue (Fast method for scoring the 100 Hue test) J J COULON, E COEFFIER AND A BONALY. J. Fr d'Ophtalmol, 1986, 9, 5, 385-394.

A new and fast method for scoring and assessing the Farnsworth-Munsell 100 Hue test is reported. This method allows to simultaneously transcribe graphically the response of the patient. This method dramatically reduces the time of examination and calculation without modifying the principle of the 100 hue test. The quantitative, graphic and statistical validity are analysed from 103 pathological subjects and 53 normal subjects. The Farnsworth, Kinnear and fast methods are examined comparatively - J. Vola.

Intérêt clinique de l'examen de la sensibilité au contraste coloré (Clinical value of the evaluation of color contrast sensitivity) C H CORBE, J P MENU, M MAILLE AND H HAMARD. J. Fr d'Ophtalmol, 1986, 9, 11, 693-699.

Evaluation of color contrast sensitivity is a new test for the assessment of visual capacity and specially of light stimulation transfer along the optic pathway. This color technique yields accurate results. It is combined with previously existing functional examinations and allows very early detection of subclinical signs of starting pathological processes - J. Vola.

Evaluation du Panel D15 désaturé méthode de quantification et score normaux (Assessment of desaturated Panel D15 quantification method and normal scores) P LANTHONY. J. Fr d'Ophtalmol, 1986, 9, 12, 863-867.

Description of a method for quantifying of the desaturated Panel D-15 : the principle was the calculation of the differences between the caps of the desaturated Panel D-15, according to the differences between the corresponding caps of the 100-Hue test, thus allowing the calculation of partial and total scores. 337 normal subjects, divided in 5 year age groups, were examined by this procedure. A color discrimination impairment was evidenced, the total scores being increased in the older age groups. These results give norms for clinical evaluations - J. Vola.

Clinical electroretinography for short wavelength sensitive cones. M SAWUSCH, J POKORNY and V C SMITH (Eye Research Laboratory, The University of Chicago, Chicago, Illinois). Invest Ophthalmol Vis Sci 1987, 28, 966-974.

We measured electroretinograms (ERGs) for the isolated short-wavelength-sensitive (SWS) cones using a substitution technique. The stimulus was a 5Hz alternation of 460 nm and 565 nm or 490 nm and 565nm light of equivalent photopic luminous efficiency. We used a 571 nm narrow-band adaptation field of 7000 td to improve SWS cone isolation and to suppress rod activity. The resulting SWS cone ERG amplitudes were 10-30 μ V with latencies of 60-80 msec. A rapid clinical protocol to assess the radiance response function of the SWS cone ERG is described - The Authors.

Analysis of the visual field using Friedmann's analyser Mark I and color vision study in 85 multiple sclerosis patients. Correlations with visual evoked responses (VERS) in 50 cases. M GROCHOWICKI AND A VIGHETTO. *J Fr d'Ophtalmol*, 1988, 11, 1, 61-65.

Analysis of the visual field using Friedmann's analyser Mark I and color study in 85 multiple sclerosis patients. Static perimetry of the central visual field and test batteries (Ishihara plates, D-15 Standard and Lanthony) for acquired color vision defects were performed in 85 multiple sclerosis patients (61 definite, 12 probable, 12 possible cases). Results in patients were compared to data obtained in 53 control subjects matched for age. 64% of the 85 patients and 52% of 48 patients with no history of optic neuritis showed visual field abnormalities and/or color vision defects. Comparison with VEP was available in 50 patients. While 10 patients had abnormal VEP and normal static perimetry and color tests, 5 patients had the reverse findings - J. Vola.

Etude de la perception des couleurs au moyen du new color test et du panel D15 désaturé chez des sujets normaux et diabétequés. (Study of color vision by Lanthony's new color test and the desaturated panel D15 in normal subjects and diabetics) by E MECCA, G TOVENA, G MARCHINI, A MANGANOTTI, M MARRAFFA AND L BONOMI. *J Fr d'Ophtalmol*, 1988, 11, 6, 7, 493-500.

The authors used two tests (Lanthony's new color test (NCT) and the desaturated panel D-15 test) to evaluate color vision in 235 subjects (235 eyes) of which 80 normal and 155 diabetic (85 with background retinopathy and 70 without retinopathy, as demonstrated by fluorescein angiography). Diabetic patients with maculopathy or macular oedema, with mixed or proliferative retinopathy, or with any form of advanced degenerative retinopathy were excluded from this study. Similar results were obtained on the NCT and Panel D15 tests : all differences between the three groups proved significant below 45 years of age, but not above.

The authors conclude that, in the below 45 age group, both tests yield abnormal results in the presence of background retinopathy (9% and 17% false positives in the NCT and D15 test respectively), but fail to discriminate adequately between normal subjects and diabetics without retinopathy. The latter, in fact, often show normal test responses (poor test sensitivity). Both tests confirmed that, in diabetic retinopathy, defective color perception takes the form of a blue-yellow confusion axis - J. Vola.

Evolution de la vision des couleurs dans la rétinopathie diabétique débutante traitée par extrait de Ginkgo Biloba (Changes in color vision in early diabetic retinopathy treated by Ginkgo Biloba extract) P LANTHONY and J P COSSON. *J Fr d'Ophtalmol*, 1988, 11, 10, 671-674.

The therapeutic efficiency of the Ginkgo biloba extract was estimated in a double-blind trial, during a 6 months period, in 29 diabetic subjects with an early diabetic retinopathy evidenced by angiography, and associated with a blue-yellow dyschromatopsia. The functional criterion was the change in color vision, studied by the Desaturated Panel D 15 and the 100 Hue Farnsworth test at the beginning of the trial and 6 months later. An improvement tendency was evidenced in 14 patients treated by Ginkgo biloba extract, and an aggravation in 15 patients with placebo, this difference being statistically significant with the D 15 among 19 subjects without retinal ischemia. These clinical results on visual function corroborate the pharmacological actions of Ginkgo biloba extract on the diabetic retina - J. Vola.

Evaluating the role of colour in a flight information cockpit display. W A MACDONALD and B L COLE (Department of Optometry, University of Melbourne, Australia). *Ergonomics*, 1988, Vol. 31, No. 1, 13-37.

The role of colour coding in the display of aircraft electronic flight information was evaluated by comparing performance with colour and monochrome forms of display for each of seven different information-processing tasks. Tasks required subjects to classify statements about the displayed information as either true or false. Processes of information search or

identification or both were involved, to a degree dependent on the type of statement. Each task was characterized by a particular type of statement. Tasks also differed in the degree to which colour was relevant, and the degree of position uncertainty of relevant information. Colour was always redundant, and colours irrelevant to the task were present. Display complexity was varied systematically.

Results showed that the value of colour was not simply dependent on whether the task was search or identification in nature. Colour resulted in faster responses in those tasks for which relevant information was uniquely colour coded, and in fewer errors on almost all tasks. Its effect was also related to display complexity, task difficulty, and the presence of other forms of information coding. It was evident that the design or evaluation of an information display requires detailed data on the ways in which the displayed information is to be used, since this determines the nature of tasks which users will perform and defines the optimum role of colour - **The Authors.**

Defective colour vision can impede information acquisition from redundantly colour-coded video displays. B L COLE AND W A MACDONALD (Department of Optometry, University of Melbourne, Australia). Ophthal Physiol Opt 1988, 8, 198-210.

*Earlier findings showed that redundant colour coding decreased response times and reduced errors in carrying out various tasks that required information acquisition from the video display of an electronic flight instrument system. The results of this experiment showed that observers with defective colour vision have slower response times and higher error rates than normal observers for some of the tasks and that their performance is similar to that of colour-normal observers for a monochrome display. However, they were not disadvantaged when blue was used to colour code the target feature. Protanopes were shown to be especially disadvantaged in responding to a red 'fail' message - **The Authors.***

What do color vision defectives say about everyday tasks?. J M STEWARD AND B L COLE (Department of Optometry, University of Melbourne, Parkville, Australia). Optom and Vision Sci, 1989, 66, 5, 288-295.

*A lengthy questionnaire was administered to 102 people with defective color vision and to an equal number of people with normal color vision. The questionnaire asked about the subjects' awareness of their defect and their knowledge of defective color vision as well as exploring the difficulties they experience with color at work and in pursuing leisure activities. The questionnaire was administered in the consulting room under conditions that might be expected to elicit frank replies. Nearly 90% of dichromats reported difficulties with everyday tasks that involve color, nearly one-half of the dichromats and one in five anomalous trichromats reported difficulty with traffic lights, and similar proportions reported color difficulties in their present jobs. Substantial numbers reported that their color vision defect had affected their choice of career and many had been excluded from a chosen occupation. The screening of color vision in schools and provision of appropriate career counselling is urged - **The Authors.***

Color matching and the Stiles-Crawford effect in observers with early age-related macular changes. V C SMITH, J POKORNY and K R DIDDIE (Eye Research Laboratories, The University of Chicago, 939 East 57th Street, Chicago, Illinois 60637). J Opt Soc Am A, 1988, 5, 2113-2121.

*We studied the color-match-area effect and the Stiles-Crawford effect in 10 observers with age-related macular changes. Observers were graded on a scale of I to IV according to the Sarks classification, which correlates fundus appearance and visual acuity with the severity of postmortem histological changes in Bruch's membrane. Observers in group II showed subtle abnormalities of color matching: those in groups III and IV showed more-severe abnormalities. The Stiles-Crawford effect was abnormal in 9 of 10 eyes tested. Only one observer showed a Stiles-Crawford effect that had a well-defined peak near the center of the pupil and a near-normal bandpass. The results suggest that early age-related changes visible in the fundus can be revealed by psychophysical tests of photoreceptor architecture - **The Authors.***

INTERNATIONAL RESEARCH GROUP ON COLOUR VISION DEFICIENCIES

XI Symposium 20-23 June 1991

Sydney, Australia

First Announcement

The XIth IRGCVD symposium will be held at the University of New South Wales, Sydney, Australia in June 1991.

Specific topics nominated for this symposium are:

Occupational consequences of colour vision deficiencies
Molecular genetics of colour vision deficiencies
Spatial aspects of colour vision.

Papers and posters on these and any other area of colour vision deficiencies are invited. Specific times will be allocated for the viewing and discussion of posters. Abstracts may be submitted in printed form, on computer disk or by e-mail but not by fax. Abstracts must be submitted by the 15 February 1991 and the programme will be finalised by the second half of April and participants advised.

Low cost accommodation on campus and motel accommodation just off campus will be available. The symposium registration fee includes three lunches, two dinners and a half day tour of Sydney. There will be an accompanying persons programme comprising the half day tour and two full day tours to places including Taronga Park Zoo and the Blue Mountains. The local Organiser will be able to provide details of pre- and post-symposium options to tour Australia.

The registration fees will be \$AUS420 for participants (plus \$AUS36 supplement for non-members) and \$AUS340 for accompanying persons. If your registration is received before May 15 1991 you are entitled to "early bird" registration fees which are \$AUS340 and \$AUS275 respectively.

There is a special registration fee for full time students of \$AUS180 but this MUST be paid before May 15, 1991. Some travel funds are available to assist students from overseas who are presenting a paper. For further details of this assistance please contact the local Organiser.

JOINT IRGCVD-AIC MEETING 24 JUNE 1991

On the day following this Symposium (24th June 1991) and at the same venue the IRGCVD is holding a one day joint meeting with the Association Internationale de la Couleur (AIC) on

Mechanisms of Colour Vision.

The same rules apply for the submission of abstracts as for the IRGCVD Symposium. The Registration fee will be \$AUS50 and will include lunch.

After this the AIC is holding a three day meeting "Colour and Light" in Sydney 25-28 June 1991 and the Commission Internationale de l'Eclairage will be meeting in Melbourne on 2 - 11 July. So here is an opportunity to attend a whole series of color related events as well as tour Australia.

Details of all these meetings can be obtained from the local organiser

Dr Stephen J Dain
School of Optometry, University of New South Wales
PO Box 1, Kensington
New South Wales 2033
Australia

Phone international + 61 2 697 4629 (Universal time + 10 hours)
Fax international + 61 2 313 6243 Telex AA 26054
e-mail: address most likely to succeed is

From the US: munnaril@au.oz.unsw.csd.usage!sdain@uunet.uu.net

From EUROPE sdain%usage.csd.unsw.oz.au@ean-relay

From the UK: sdain@au.oz.unsw.csd.usage

ASSOCIATION INTERNATIONALE DE LA COULEUR (AIC)

COLOUR AND LIGHT

SYMPOSIUM 25-28 JUNE 1991

Sydney, Australia

First Announcement

An AIC Meeting will be held in down-town Sydney, Australia in June 1991

Specific topics nominated for this meeting are:

Lighting for colour assessment and reproduction
Colour in the visual arts and architecture
Colour Education
Instrumentation for colour measurement

Papers on these and any other area of colour vision deficiencies are invited. Abstracts may be submitted in printed form, on computer disk or by e-mail but not by fax. Details of the required format for each of these media are available from the Meeting Organizer. Abstracts must be submitted by the 15 February 1991 and the programme will be finalised by the second half of April and participants advised.

The registration fees will be less than \$AUS400 for participants. Special discounts will be available to early registrants and full time students.

This AIC meeting follows the Xlth Symposium of the IRGCVD (20-23 June 1991) and a one day IRGCVD-AIC joint meeting which also take place in Sydney on the campus of the University of New South Wales. See separate announcement.

The Commission Internationale de l'Eclairage (CIE) will be meeting in Melbourne on 2-11 July. Details of all of these meetings can be obtained from the IRGCVD local organizer. So here is an opportunity to attend a whole series of colour related events as well as to tour Australia.

Details of the AIC meeting can also be obtained from:

Bryan Powell
Colour and Light 91
PO Box 495
Drummoyne
New South Wales 2047
Australia

Phone: International code + 61 2 950 4530 (Universal time + 10 hours)

Fax: International code + 61 2 950 4545

SYMPOSIUM OF THE INTERNATIONAL RESEARCH GROUP ON COLOUR VISION DEFICIENCIES

June 20 - 23, 1991 Sydney, Australia
GENERAL INFORMATION

1. DATE June 21 (Friday) - June 23 (Sunday)
2. VENUE Electrical Engineering lecture theatre, University of New South Wales.
3. ABSTRACT Deadline for submission - February 15, 1991

Special Themes - a) Occupational consequences of colour vision deficiencies,
b) Molecular genetics of colour vision deficiencies, and
c) Spatial aspects of colour vision

SUBMISSION OF ABSTRACT instructions are available from local organizer.

4. SCIENTIFIC PROGRAMME
June 21 8:00 am - 5:00 pm
June 22 9:00 am - 5:00 pm
June 23 9:00 am - 5:00 pm

Two sessions will be for posters and one will be an IRGCVD Business meeting.

5. SOCIAL PROGRAMME
June 20 2:00 pm - 6:00 pm Tour of Sydney
6:00 pm - 10:00 pm Welcome Reception
June 21 7:00 pm - 11:00 pm Harbour Cruise
June 22 7:00 pm - 11:00 pm Australian Dinner

ADDITIONAL ACTIVITIES FOR ACCOMPANYING PERSONS:

June 21	9:00 am - 4:00 pm	Taronga Park Zoo
June 22		Free shopping day
June 23	9:00 am - 5:00 pm	Blue Mountains

6. METHODS OF PAYMENT FOR REGISTRATION FEES AND ACCOMMODATION

Either bank cheque or bank transfer may be made in Australian Dollars.

- i) In the case of a bank cheque, please make it in favour of IRGCVD Xlth Symposium. Enclose with the completed Registration and Accommodation form.
- ii) In the case of a bank transfer, please make it through your own bank to the IRGCVD account at the State Bank, University of New South Wales Branch, A/C 862047-00. Enclose a copy of the bank transfer with your Registration and Accommodation form.

7. CANCELLATIONS AND REFUNDS OF REGISTRATION FEES

Written notification should be received by the SECRETARIAT no later than May 15, 1991.

Refunds will be made as follows: Before May 15, 1991 Less by 20% for administration costs.
After May 15, 1991 No refunds.

8. ACCOMMODATION

Arrangements have been made with the most conveniently located motels and University residential colleges. Please see the "ACCOMMODATION AND REGISTRATION FORM" and additional information leaflets.

For all communications, please mail or fax to:

IRGCVD SYMPOSIUM SECRETARIAT
School of Optometry
University of New South Wales
Kensington
New South Wales 2033
Australia

Phone: Int + 61 2 697 4629 fax: Int + 61 2 313 6243 Telex: AA26054
e-mail: sdain%usage.csd.unsw.oz.au@murtoa.cs.mu.oz

SYMPOSIUM OF THE INTERNATIONAL RESEARCH GROUP ON COLOUR VISION DEFICIENCIES

June 20 - 23, 1991

AND JOINT IRGCVD-AIC MEETING

June 24, 1991

ACCOMMODATION INFORMATION AND FLIGHT HINTS

			Distance to venue
1.	Barker Lodge Single Twin Share	Tel: Int + 61 3 662 8444 \$110 \$120	32 Barker St, Kingsford Basis: room only 5 mins walk
2.	Eastside Motel Single Twin Share	Tel: Int + 61 3 663 0631 \$85 \$95	147 Anzac Pde, Kensington Basis: room only 10 mins walk
3.	Gemini Motor Inn Single Twin Triple	Tel: Int + 61 3 399 9011 \$115 \$125 \$135	65 Belmore Rd, Randwick Basis: room only 20 mins walk
4.	New College Single Students receive an additional discount	Tel: Int + 61 3 697 5437 \$42	On Campus Basis: Bed and Breakfast 5 mins walk
5.	International House Single Student Kosher cuisine	Tel: Int + 61 3 697 5436 \$40 \$25	On Campus Basis: Bed and Breakfast 5 mins walk

PLEASE NOTE: This accommodation has been selected for its vicinity to the University of New South Wales. If you are also attending the AIC meeting (25-28 June) and would prefer not to change accommodation, you will find that the AIC meeting site is reasonably accessible from by public transport and taxis are plentiful and relatively cheap.

FLIGHT HINTS

June is the cheapest time to fly to Australia. To obtain the cheapest fares will require a minimum stay of 14 days. For instance, the cheapest return flight from Britain by QANTAS is less than £900 at present. QANTAS also offers flights within Australia for a very modest fee to its own passengers and offers a cheap within Australia pass to passengers arriving on other airlines. For instance, it is possible to fly into Cairns and visit the Great Barrier Reef, fly to Sydney for the IRGCVD and AIC symposia and then fly to Melbourne for the CIE meeting all within the one ticket cost. I must stress that this is only available on airlines which make internal flights. This is mainly QANTAS although the Sydney/Melbourne flight is available with a number of other airlines including British Airways, KLM, Malaysian and Garuda Indonesia. To make your tour even more enjoyable, at least one stopover before you reach or after you leave Australia can be made even on the cheapest ticket. Travelling from Europe these can be in places like Bangkok or Singapore and from North America in Hawaii or Tahiti. In Britain, United States and Canada the company to contact about these flights and other pre- and post-conference tour options is Jet-About Travel (owned by QANTAS). In other countries contact your QANTAS office. Further information on flights and prices will be communicated as it becomes available. If you need specific information and your local airline or travel agent is unhelpful then contact the local organizer.

XIth SYMPOSIUM OF THE INTERNATIONAL RESEARCH GROUP ON COLOUR VISION DEFICIENCIES

INSTRUCTIONS FOR SUBMISSION OF ABSTRACTS

Due date for abstracts to be at this office in Sydney is 15 February 1991

Abstracts must be submitted:

1. on the form provided,
2. on an Apple Mackintosh disk as a Microsoft Word file (any version) or a text file readable into Microsoft Word
3. on an IBM or IBM compatible disk as text file, or
4. by e-mail.

The Abstract itself should contain about 200 words.

Abstracts submitted on the form **MUST** be camera ready. No retyping of abstracts will be done. Sections 3 to 5 of the form will be reproduced "as is" in the abstract book without reduction. For the hard copy form of submission the information must be in print no smaller than 10 point print or with 1 1/2 spacing (this paragraph is 10 point with 1 1/2 spacing). Since computer and e-mail submissions will be printed in Helvetica font, it is preferred, but not essential, that printed submissions also be in Helvetica font. Dot matrix printing (other than near letter quality) is **NOT** acceptable because it does not reproduce well.

DISK AND E-MAIL SUBMISSION OF ABSTRACTS

The following scheme is adapted from that of the American Academy of Optometry with permission of and thanks to its author Dr Larry Thibos.

In addition to the normal method by mail ("snail mail"), submission of abstracts by disk and e-mail will be acceptable for this meeting. In fact, they are infinitely preferable to fax submissions, which are strongly discouraged. This should make abstract submission easier for authors with e-mail access. It is anticipated that most e-mail submissions will come from university based authors.

The address FOR email abstracts is:

`sdain@usage.csd.unsw.au.oz`

From the USA this has been achieved by `!munari.usage.csd.unsw.oz.au!dain@uunet.uu.net`

From Europe this has been achieved by `sdain@usage.csd.unsw.au.oz@earn.relay`

The method of getting the message to the oz gateway will vary with your network and the country in which you are located. If in doubt or difficulty, snail-mail or fax your email address to me, I will e-mail you and you can get the return pathway from the message. Since some email gateways are uni-directional we hope we can get this to work.

It is assumed that the author is otherwise familiar with sending messages by e-mail. Therefore, the following instructions are limited to specific requirements for submitting an abstract to the IRGCVD.

The address for disk and printed submissions is at the end of these instructions. **PLEASE ENSURE** that the Subject entry identifies the submitted abstract as being to the IRGCVD Symposium. The local organiser is also involved with submissions for the two other colour vision events in Sydney in June 1991 and so it must be quite clear for which event your abstract is intended.

1. The abstract should be submitted as a text message. The message must contain only printable, ASCII text. **NO FORMATTING INFORMATION, SPECIAL CONTROL CHARACTERS, OR OTHER NON-PRINTABLE CHARACTERS ARE TO BE INCLUDED!!**

If you are at all uncertain about meeting these requirements with respect to e-mail, the best test is to send the abstract as an e-mail message to yourself first to see if it is transmitted and received satisfactorily.

2. Each line of your message should contain at most 80 characters, including spaces, and should be terminated with a carriage-return, line-feed.
3. A complete submission will contain 9 items, each of which is introduced by a key word enclosed in angle brackets. The sequence of these key words is <TOPIC> <PRESENTATION> <TITLE> <AUTHORS> <ABSTRACT> <EQUIPMENT> <ADDRESS> <E-MAIL> <>
4. The information typed after each key word is as follows:
 - <TOPIC> Type the selected topic area title as in the printed form.
 - <PRESENTATION> Type a two letter code, in uppercase, according to your presentation preference. The code is: LO (lecture only), PO (poster only), LP (lecture first, then poster), PL (poster first, then lecture).
 - <TITLE> Enter title in CAPITAL LETTERS
 - <AUTHORS> Enter the authors' names and any academic or company affiliations, with the presenting author marked by an asterix.
 - <ABSTRACT> Enter a one-paragraph, single spaced abstract of about 200 words.
 - <EQUIPMENT> Describe any special equipment required for your presentation like video cassette player, tape player, etc.
 - <ADDRESS> Give full mailing address of communicating author.
 - <E-MAIL> Give e-mail address of communicating author if appropriate.
 - <> Marks the end of your message.
5. Remember that e-mail messages are automatically time-stamped when received, so be sure to submit your abstract before the 15 February deadline. The time required for delivery of e-mail can vary from a few minutes to a day or more, depending on network traffic, routing and other factors.
6. An example is given below of an e-mail session in which an abstract is submitted. The initial dialogue for addressing of the message will vary with your particular connection to the network and host computer.

ADDRESS FOR CONVENTIONAL MAIL SUBMISSIONS AND OTHER ENQUIRIES

Dr Stephen J Dain
 School of Optometry
 University of New South Wales
 PO Box 1
 Kensington
 New South Wales 2033
 Australia

Phone: Int + 61 2 697 4629 (Universal Time + 10 hours)

Fax: Int + 61 2 313 6243

SPECIMEN E-MAIL

Mailsend

To: sdain@usage.csd.unsw.au.oz

Subj: IRGCVD 1991 Abstract Submission

```
<TOPIC> Occupational consequences of colour vision deficiencies
<PRESENTATION> LO
<TITLE> ELECTRONIC SUBMISSION OF ABSTRACTS
<AUTHORS> Fred E Flintstone, Department of Neolithic Anachronisms, American University, Hollywood, CA.
<ABSTRACT> This is an example of how an abstract would appear when submitted by email. The abstract
must consist of a single paragraph, single spaced about 200 words total. Avoid the use of obscure
abbreviations or acronyms, literature citations, and references to figures or tables. A good abstract will state
(1) the purpose of the study, (2) the experimental design, subjects and procedures, (3) the major results, and
(4) the principal conclusions.
<EQUIPMENT> IBM-compatible computer, electrical outlet
<ADDRESS> Barney J Miller, School of Indecision, Podunk University, Anytown, NSW 2999.
<E-MAIL> bitnet:FRED@PODUNK
<>
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**SYMPOSIUM OF THE INTERNATIONAL RESEARCH GROUP ON COLOUR
VISION DEFICIENCIES**

June 20 - 23 1991

JOINT IRGCVD AND AIC MEETING

June 24 1991

REGISTRATION AND ACCOMMODATION BOOKING FORM

REGISTRATION

NAME Prof/Dr/Mr/Mrs/Miss/Ms

ADDRESS

.....

.....

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REGISTRATION FEES

(before 15 May 1991)

Participant*	\$AUS420	(\$AUS340)	\$
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Non-member Supplement	\$AUS 36	-----	\$
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Student (before May 15, 1991)	-----	(\$AUS180)	\$
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Proceedings Volume (Non-member, Student)	\$AUS 96	-----	\$
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Accompanying person(s)	Name(s)		
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.....	@	\$AUS360	(\$AUS275)	\$
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JOINT IRGCVD-AIC meeting 24th June	\$AUS 50	-----	\$
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* Full members who are in good standing for the years 1990 and 1991 will receive a copy of the proceedings automatically.

ACCOMMODATION

Arrival Date Departure Date Total number of nights

MOTEL

SINGLE/DOUBLE/TRIPLE Indicate requirement

PREFERENCE 1

See accompanying form 2

3

One night's deposit \$

COLLEGE

PREFERENCE 1

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JOINT IRGCVD-AIC MEETING
INTERNATIONAL RESEARCH GROUP ON COLOUR VISION DEFICIENCIES
AND
ASSOCIATION INTERNATIONALE DE LA COULEUR
SYDNEY 24 JUNE 1991
MECHANISMS OF COLOUR VISION

ABSTRACT FORM

Due for submission by 15th February 1991. See Instructions.

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2 Authors' names and affiliations. Put asterix against presenting author.

3 Abstract

4 Name and address for correspondence (this will not appear in abstract book)

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XIth SYMPOSIUM OF THE IRGCVD

SYDNEY 20 - 23 JUNE 1991

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| <input type="checkbox"/> Molecular genetics of colour vision deficiencies | <input type="checkbox"/> Spatial aspects of colour vision |
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