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# AIC Newsletter

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## MacAdam receives Judd AIC award

On August 25, Dr David L. MacAdam was awarded the 1983 Judd-AIC Medal at the Interim Meeting on Colour Order Systems held at Kungälv, Sweden. The award was established in 1973 by Mrs Betty Judd in memory of her husband, Dr Deane B. Judd, the internationally acclaimed authority on colour, and one of the founders of the AIC, who died in 1972. In presenting the medal, the AIC President, Dr Robert W. G. Hunt, drew attention to Dr MacAdam's long and distinguished career, in which even by the age of thirty he had already published no fewer than twenty-one papers. Perhaps best known as the author of the 'MacAdam ellipses', representing loci of just noticeable colour differences, Dr MacAdam's investigations have also included work on optimal colours (sometimes, indeed, described as those on the 'MacAdam limits'), loci of dominant wavelength and purity, uniform chromaticity diagrams (the CIE 1960 UCS u,v diagram was originally proposed by Dr MacAdam in 1937), chromatic adaptation, pioneer work in the use of computers

for colorimetric computation (as early as 1949), loci of constant hue and brightness, and the basis for colorimetrically exact colour reproduction in both additive and subtractive systems. Recently, he has been very active in the developments and applications of the OSA scales of uniformly spaced colours.

Commenting on his personal friendship with Dr MacAdam, which originated in 1947, Dr Hunt spoke of the attitude of warm helpfulness which had been characteristic of Dr MacAdam's attitude to other colour scientists over so many years. Dr Hunt therefore said that it was with many congratulations and great personal pleasure that he presented the medal.

In replying, Dr MacAdam thanked the AIC for the honour which had been bestowed on him, and Dr Hunt for his personal comments. He then delivered a paper on 'Judd, Hardy: Colour Measurement and Systems', in which he reviewed the work by Ostwald, Munsell, and others, that had produced various colour order systems, and finally the work of the OSA Committee that had eventually led to the OSA System being made available.

## Interim Meeting at Kungälv, Sweden

In opening this Interim Meeting, Dr Robert Hunt, AIC President, commented on the many outstanding contributions made by Sweden to colour science, which included those by Forsius (after whom the Meeting was named and who was active more than 400 years ago), Holmgren, Granit, Katz, and Johansson, and which was now being carried on by those who had organized this Interim Meeting, Anders Hard, Sven Hesselgren, Lars Sivik, Ake Stenius, and Gunnar Tonnquist.

The meeting was divided into seven sessions (each run by a distinguished moderator), as follows: 'Why colour order systems?' (moderator, F. Parra); 'Basic concepts and attributes' (P. K. Kaiser); 'Colour spaces and models' (L. Sivik); 'Experimental evidence' (F.W. Billmeyer); 'Physical exemplification' (H. Terstiege); 'Applications' (G. Tonnquist); and 'Colour order systems and environmental design' (A. Whitfield).

Following a boldly conceived plan, the individual papers, having been circulated in written form in advance, were not presented in these sessions. The subject of each session was introduced by an invited speaker, these being S. Hesselgren, W.D. Wright, A.R. Robertson, R.W.G. Hunt, C.S. McCamy, P. Green-Armytage, and W. Spillman, respectively for the seven sessions. The remainder of each session was used for discussion. This plan worked very well in that plenty of time was available for extensive discussion on each topic; and, although some of the papers were not given much prominence in the formal sessions, they could be discussed informally at meal times and during other breaks in the programme because the meeting was residential for all participants.

The question 'Why colour order systems?', asked in the first session, was answered to the effect that colour order systems are used as aids by designers and artists, and as means of communicating colour concepts to others in various contexts, such as in teaching, in illustration, and in colour harmony.

In the session on 'Basic concepts and attributes' there were useful interchanges of views on the relationships between such perceptions as brightness, lightness, and blackness, and between colourfulness, chromaticness, chroma, and saturation.

'Colour spaces and models' was the subject of the third session and the differences between the spaces represented by various systems, such as Munsell, NCS, DIN, and OSA, was discussed very usefully.

In the fourth session on 'Experimental evidence', the emphasis was on the effects of the viewing conditions, and of the nature of the observers' task, on the results obtained.

The fifth session was devoted to 'Physical exemplification', and covered the choice of colorants to be used in making atlases, and the degree of metamerism to be expected in using them.

In the sixth session on 'Applications' the uses of colour order systems by designers, artists, and architects, was discussed, and this provided a fitting prelude to the last session on 'Colour order systems and environmental colour design' in which colour order systems were seen to provide a useful bridge between scientists, artists, designers, and engineers.

The meeting was attended by 73 people, from 15 different countries, including those as near as Norway and as far away as Australia. The accommodation in a Technical College was very pleasant, and Kungälv proved to be a delightful small town not far from Gothenberg. The social arrangements included a reception by the mayor in the town hall, followed by a banquet, and a boat trip one afternoon in perfect weather.

Those who were fortunate enough to attend this Interim Meeting came away with most pleasant memories of Swedish hospitality, and the AIC is greatly indebted to the Swedish Committee for having organized such a successful meeting.

## Programme of future meetings

1984: Salamanca, Spain. Interim Meeting on Colour Education.  
18 to 20 June. See back page for details.

1985: Monte-Carlo, Monaco. Fifth Congress.  
16 to 22 June.  
Organizer: Dr F. Parra, Centre Francais de la Couleur,  
43 rue Cuvier, 75231 Paris, cedex 5, France.

1986: Canada. Interim Meeting on Colour and Video Graphics.

1989: Argentina. Sixth Congress.

Interim meetings are also being considered on Environmental Colour Design for 1987, and on Colour Vision for 1988.

# Study Group on Colour Order Systems

Under the Chairmanship of Dr Gunter Wyszecki, this Study Group held its first meeting during the AIC Congress Color 81 in Berlin in September 1981, and its second meeting during the Interim Meeting, the Forsius Symposium on Colour Order Systems, held at Kungälv, Sweden, in August 1983.

At its first meeting (1981), the Study Group agreed to the definition that 'A colour-order system is a rational method or a plan of ordering and specifying all object colours, or all within a limited domain'. The Study Group also adopted an extensive working programme, the first objective of which was to compile an annotated bibliography on colour order systems. Requests to supply citations and annotations were sent to all members of the Study Group and all member countries of the AIC. Other objectives of the working programme were to identify applications of colour order systems and, ultimately, to prepare a report.

At the second meeting (1983), Dr Wyszecki reported that just over 200 citations for the bibliography, few if any annotated, had been received. In view of the magnitude of the subject, he considered this insufficient to warrant any publication, and questioned the advisability of continuing the work. Some of those present argued strongly that the Study Group should continue, with a more limited but more precisely defined working programme including a second effort towards a bibliography and a more limited AIC report, to be completed by the time of the next AIC Congress in 1985. The new working programme was established as follows.

1. A solicitation will again be made for items for the bibliography, specifically for:
  - a. Annotated citations of books, articles, and widely available reports, referring only to colour order systems exemplified with material samples and in active current use. Examples of the types of items to be included are those that
    - (1) Deal with the system itself, not just its use for some purposes.
    - (2) Intercompare systems.
    - (3) Describe how to use or apply the system, including documentary standards.
    - (4) Describe the scaling of the system or tests of its uniformity or other characteristics.

This solicitation will be carried out by the chairman probably on a country by country basis.

- b. Annotated citations of colour order systems of historical interest. This solicitation will be carried out by Professor Frederick T. Simon, Sirrine Hall, Clemson University, Clemson, South Carolina 29631. Professor Simon will supply a preliminary non-annotated listing to be sent to all Study Group members to initiate the effort.

The chairman will ask for semi-annual progress reports from all those requested to co-ordinate the bibliography effort.

2. An AIC Report will be prepared for publication by the time of the AIC Congress in Monaco in June 1985. The colour order systems to be discussed in the report will be limited to those in widespread use, probably no more than the following: Munsell (produced in several variations in the United States and in Japan), Optical Society of America (United States), Natural Color System (Sweden), DIN (Federal Republic of Germany), Coloroid (Hungary), and the Swiss Colour Atlas (Switzerland). The report will include discussion of the philosophical and experimental bases of the systems, their exemplifications, intercomparisons, and applications.

With the programme established, Dr Wyszecki submitted his resignation as chairman of the Study Group, noting that his duties just to begin as President of the CIE would prove very time consuming. The AIC Executive Committee recommended that the new chairman be Dr Fred W. Billmeyer, Jr., Department of Chemistry, MRC 217, Rensselaer Polytechnic Institute, Troy, New York 12181. Because of his retirement in the immediate future, Dr Billmeyer agreed to accept the chairmanship only until the 1985 AIC Congress and only for the two objectives cited above.

## Study Group on Colour Education

A meeting of this Study Group will be held at Salamanca, Spain, on 21 June, immediately following the Interim Meeting on Colour Education. Dr J. Schanda is not able to continue as Chairman of this Study Group, and a new Chairman will be appointed. Our best thanks are due to Dr Schanda, who has been Chairman since the formation of this Study Group in 1978, for his excellent leadership in this area of AIC work.

## Study Group on Environmental Colour Design

Under the Chairmanship of Dr Anders Hard, this Study Group held its first meeting on August 29, 1983, at Kungälv, Sweden, immediately following the Interim Meeting on Colour Order Systems. It is hoped to include a report on this meeting in the next AIC Newsletter.

## CIE news

The twentieth session of the CIE was held at Amsterdam from August 31 to September 8, 1983. It was held in two parts: papers were presented in the first four days, and then, after a rest day on the Sunday, the committees met during the last four days; this arrangement worked very well.

In the Colorimetry Committee meeting (TC-1.3), the final version of the second edition of Publication No. 15 (Colorimetry) was agreed, and is now being prepared for issue by the CIE. This second edition has been generally brought up to date, and includes the substance of the two previous supplements (on Illuminant Metamerism and on Uniform Colour Spaces); it also includes a recommended whiteness formula which is new.

The committee structure in the CIE was completely revised at Amsterdam, and the work of the old Colorimetry, Colour Rendering, and Vision, Committees (TC-1.3, TC-3.2, and TC-1.4) will now be carried out in some thirteen different committees in the new CIE Division 1 (Vision and Colour), whose Director is H.W. Bodmann of the Federal Republic of Germany. The work of the old committees on Detectors and on Materials (TC-2.2 and TC-2.3) will be carried out in various committees in the new CIE Division 2 (Physical Measurement of Light and Radiation) whose Director is F. Grum of the U.S.A.

## Items from the Executive Committee

Among the items discussed at recent AIC Executive Committee meetings were the following, for which the guidelines given below were approved.

### Election of Executive Committee

To assist in the election of the Executive Committee, a Nominating Committee is appointed at each quadrennial meeting of delegates in accordance with the AIC Statutes. Guidelines for the subsequent procedure were drawn up as follows.

The Nominating Committee, one year prior to the next regular meeting of delegates, invites the national member organizations to make nominations in writing within three months for persons to be elected to serve as officers and members of the Executive Committee. The Nominating Committee may add further nominations, and makes sure that all member countries are given an opportunity to be represented in turn on the Executive Committee. If more than one person is nominated from the same country, then the national member organization of that country decides which one of those nominees shall be accepted. A list of all nominees, which may contain more than one nominee for any vacancy, and in which those recommended by the Nominating Committee are clearly indicated, is submitted to the Executive Committee at least three months prior to the meeting of delegates. This list is then sent by the Secretary-Treasurer to all national member organizations for voting.

### Guide lines for AIC Study Groups

The purpose of an AIC Study Group is to provide a continuing study of a topic within the AIC fields of interests, by specially interested or expert representatives from different countries.

AIC Study Groups are not normally set up for topics already adequately covered by other organizations, such as CIE, ISO, etc.

Each Study Group consists of a Chairman appointed by the Executive Committee, and such other members as considered appropriate by the Chairman. More than one member from any one country may be members of the same Study Group, but the Chairman may in this case use one of those members to act as a communications link with the others.

Meetings of Study Groups are arranged as far as possible to take place at times when, and at places where, most of their members can combine attendance at the Study Group meeting with attendance at some other international meeting.

Each Study Group issues a short written report on its activities to be circulated with the four-yearly statement by the Secretary-Treasurer to the Meeting of Delegates.

The findings of each Study Group are disseminated by the publication of papers and other communications in appropriate journals.

Any Study Group may be discontinued by the Executive Committee, but only after discussion with the Chairman regarding the reasons and timing of such action.

#### Guide lines for AIC Interim Meetings

The use of the AIC's name in association with a meeting is only allowed by the AIC after authorization by its Executive Committee.

AIC Interim Meetings may not take place in the same calendar year as an AIC Congress and must be separated from the nearest AIC Congress by at least six months, the exact dates being determined in consultation with the Executive Committee.

The scope of Interim Meetings are confined to a particular section of the AIC's fields of interests, unlike Congresses which attempt to cover all of them. The scope of an Interim Meeting is determined in consultation with the Executive Committee, but the detailed arrangements of the meeting are the responsibility of the organizing national member body.

There should be no parallel sessions at Interim Meetings. Parallel sessions are usually unavoidable at Congresses, but the limited scope of Interim Meetings should make them unnecessary.

Interim Meetings, like Congresses, should be truly international events. Invitations to attend and to contribute papers should be sent to all AIC Members and Observers. Less than half of the papers should normally come from the country in which the Interim Meeting is being held.

The official languages of the AIC are English, French, and German, and these are therefore all permissible at Interim Meetings. However, good discussion is usually aided by the use of only one language, and extensive use of only one of the three languages is appropriate for Interim Meetings; the choice of which language is used extensively is the responsibility of the organizing national member body. Simultaneous translation of technical papers is usually very expensive and not very effective.

The organizing national member body sends to the Executive Committee within six months of the end of the Interim Meeting a formal report on attendance, scientific content, and other matters of interest.

# Salamanca Interim Meeting

1984 AIC – MIDTERM – SYMPOSIUM

ON COLOR EDUCATION

## PLACE

Universidad de Salamanca

## ORGANIZATION

Comité Español de Color (Spanish National Committee of the AIC)

President: Dr. Lorenzo Plaza

## LANGUAGE

English

## PARTICIPANTS

Their number will be limited in order that everyone have the opportunity to present a paper and (or) to express his opinion in the discussion.

## SUBJECTS

All contributions related with the problems of teaching color in different education institutions at all levels and with the means for teaching color are wellcome.

## SUBMISSION OF PAPERS

Participants wishing to present a paper are requested to send an abstract, as soon as possible, to the Symposium Secretariat. The authors of the accepted papers will received special instructions for the preparation of the complete papers in ready-for-past-printing form. The deadline for presentation of the written papers will be the opening hour of the Symposium, but the Organization Committee will appreciate to received them earlier when possible.

## FEE

Participants ..... US\$ 125

Accompanying person ..... No fee

## ACCOMODATION

There are a number of different possibilities Salamanca. The price vary from US\$ 10 for a single room with shower in a Hotel\* to US\$ 50 for a doble room with bath in a Hotel\*\*\*\*.

The Symposium Secretariat will send detailed information to those interested to participate and help them later with the arrangements.

## TRAVEL

Salamanca is 200 Kms. from Madrid and both are connected by train and by bus.

Madrid is an important transport center and there are direct flights from, and to, most of the capitals of the European and American Nations. There are very good direct connections by train with Paris and Genève.

## SYMPOSIUM SECRETARIAT ADDRESS

Comité Español de Color

Serrano, 121

Madrid-6

SPAIN

Please inform us as soon as possible of your intentions to participate.

## AIC addresses

President: Dr R.W.G.Hunt, 10 Kewferry Road, Northwood, Middlesex, HA6 2NY, England.

Secretary-Treasurer: Dr J.J.Vos, Institute for Perception, TNO, Postbus 23, NL-Soesterberg, Netherlands.