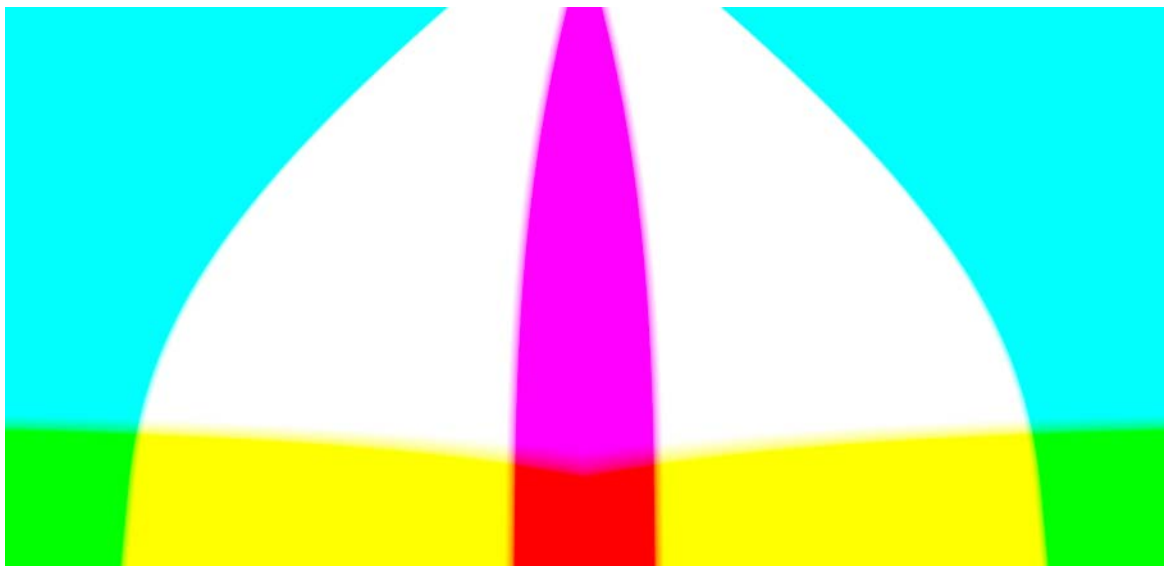




**ASSOCIATION INTERNATIONALE DE LA COULEUR
INTERNATIONALE VEREINIGUNG FÜR DIE FARBE
INTERNATIONAL COLOUR ASSOCIATION**

**ANNUAL REPORT
2012**



NO. 25

EDITED BY

Lindsay MacDonald
University College London

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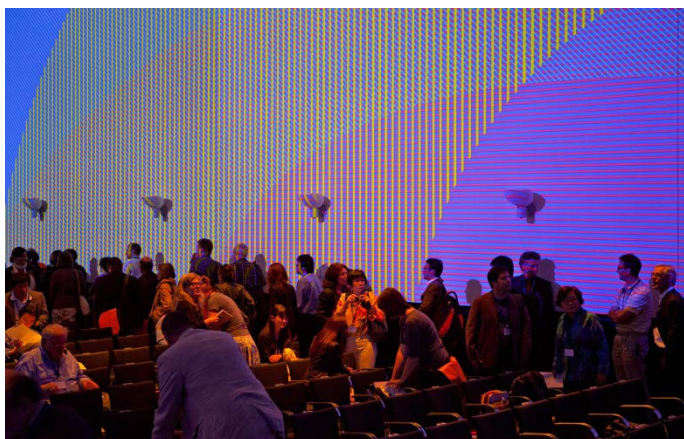
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AIC 2011 Meeting in Zurich – Photographs by Lindsay MacDonald, Maja Strgar, and the official conference photographer.

This year we have decided to change the name of this publication from AIC Newsletter to AIC Annual Report. It is appropriate because in these pages is an account of the whole year's activity during 2011 of all the Member Societies and Study Groups of the AIC. Thank you very much to all the contributors, who have provided so much interesting content about colourful activities world-wide.

Some of the highlights from member societies in this issue include research into cave paintings in Argentina (p.11), a project to introduce colour landscaping into a social housing estate in Chile (p.15), a conference celebrating '80 years of colorimetry' in Germany (p.18), the Korea Color Awards for excellence in design (p.22), the award of a national patent for a Portuguese device for measuring perceived colour in architectural applications (p.25), a very successful conference in Spain on the appearance of automotive paint (p.27), a new commercial software package in Thailand enabling a scanner to be used as a colorimeter (p.31), and a tangible display in the USA for visualising changes in surface lighting and material appearance (p.32). We also salute the tremendous growth and vibrancy of the Gruppo del Colore, our new Associate Member in Italy (p.34).

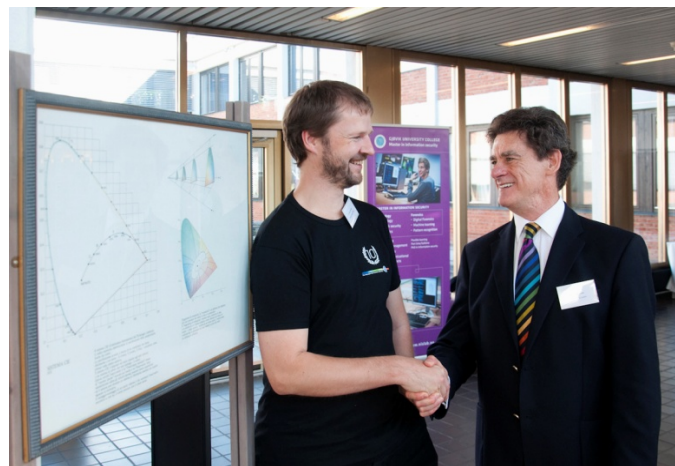


End of session in the AIC 2011 auditorium at ZHdK Zurich.

The highlight of the AIC year was the meeting in Zurich (p.9), hosted by the Swiss member society pro/colore. The rather sombre auditorium was magically transformed through projections of coloured light onto the long sidewalls, with stunning graphic designs. The patterns changed continually in colour and form, but in such a subtle and ingenious way that they never interfered visually with the presentations on the big screen at the front. It was a marvellous example of environmental colour design and exemplified the meeting theme 'Interaction of Colour & Light in the Arts and Sciences'. It was somehow appropriate that in the gallery below there was an exhibition of the photographs of Henri Cartier Bresson, the master of capturing the decisive moment.



It was a particular pleasure at AIC 2011 to witness the award of the prestigious Judd Medal to Dr Lucia Ronchi (p.10), whose encyclopædic knowledge of vision science is legendary. Many in the AIC community, including myself, have benefited from her advice and guidance.



Congratulating Prof Jon Hardeberg on the 10th anniversary of ColorLab at Gjøvik University College, Norway.

In September I was privileged to attend the 10th Anniversary celebrations of ColorLab at Gjøvik University College, Norway. This was an opportunity to honour the achievements of Prof Jon Hardeberg, who founded the lab on his return to Norway in 2001, and has since led a series of innovative colour research projects and inspired a host of students and post doctoral researchers. In particular he has been a key member of the CREATE network and the European CIMET Master's Course 'Colour in Informatics and Media Technology'.

It was an honour in November to attend the ISCC Special Topics meeting in San Jose (p.32), held jointly with the Society for Imaging Science & Technology (IS&T) and the Society for Information Display (SID) after the Color Imaging Conference. This marked the 15th anniversary of the publication of the sRGB colour space, and provided the opportunity to reflect on the success and almost universal adoption of sRGB. Currently used colour spaces were discussed from the perspective of scientific and technological advances of the past 15 years, such as HDR imaging and multi-primary displays. It is instructive to observe how a standard based on old television CRT displays has become so embedded in the modern digital world.

– Lindsay MacDonald, Editor



Presenting a copy of the 2011 Newsletter to Frank O'Donnell, President of the ISCC, at the Annual Meeting in November.

PRESIDENT'S REPORT

Dear Friends,

It is a pleasure to communicate with you in our yearly AIC Newsletter, now renamed as the AIC Annual Report. This is a better name which will show the content more clearly in the context of the year's activities of all our members. Thank you all for your contributions to this report which I hope will give new ideas and inspiration to all of us in how we can create new approaches to and shine the light on the importance of colour. This will lead to the development of AIC as a stronger organisation in the world colour community.

The AIC Midterm Meeting 'Interaction of Colour & Light in the Arts and Sciences' took place 7–10 June 2011 in Zurich, organised by pro/colore, the Swiss Colour Association. The meeting turned out to be a great success with a lot of interest. It was fully booked with 332 participants from 38 different countries with 193 presentations: 3 invited lectures, 1 Judd Award lecture, 45 oral presentations and 144 poster presentations. I would like to express my congratulations to the organisers of this very successful meeting, where we learned a lot about the latest developments under the theme.



During the Midterm Meeting 2011 there were other accomplishments as well: Dr Lucia R Ronchi received the AIC Deane B Judd Award 2011 and delivered a lecture on 'Experimentation in colour vision'. Her lecture was preceded by a citation of the award by Prof Manuel Melgosa. Lucia has contributed greatly to our colour society over many years with her sustained engagement, especially in colour vision research, and has published many papers, articles, technical reports, etc. She was the president of AIC from 1994 to 1997 and has been an active participant at AIC Meetings since 1982.

Today we are 22 regular members and we are actively working to attract new AIC member countries. The five AIC Study Groups are also important to generate new interest in colour science, and for AIC provide a means of influencing scientific opinion. The five Study Groups are: Colour Education (CE) chaired by Robert Hirschler, Environmental Colour Design chaired by Verena M Schindler, Visual Illusions and Effects (VIE) chaired by Osvaldo da Pos, Colour Perception of the Elderly (CPE) chaired by Katsunori Okajima, and the newest is The Language of Colour (LC) chaired by Jin-Sook Lee.

During this year AIC has agreed to take over the responsibility from the Society of Dyers and Colourists (SDC) for the journal *Colour: Design and Creativity* and to continue to develop and promote it internationally. We believe that it is essential for the world colour community to sustain this high quality journal, with which the aims of AIC and our philosophy of colour are very closely aligned. As it is published online we are now hosting the journal on the AIC website under the new title of *Journal of the International Colour Association* (JAIC).

The introduction of an international day of colour and light, as the 'International Colour Day' on March 21st, is an idea that we hope that you all will support with memorable colour activities in your different countries. I think the concept of holding all these colourful activities around the whole world on the same colourful day is great! We have now launched a logo competition for the 'International Colour Day' as a way of establishing the international celebration of colour.

The AIC Membership expanded in 2011 with the new associate member Gruppo del Colore, and the new individual members: Alison Bourne and Dimitris Mylonas from UK, Larissa Noury from France, Ines Klemm from Switzerland, Esther Hagenlocher from Germany and Sara Rakei from Turkey. Welcome all to the AIC!

The next meeting where I will hope to see you all is the AIC Interim Meeting 2012 which will be held in Taipei, Taiwan, September 22–25 with the theme 'In Color We Live: Color and Environment'. The following major meeting will be the 12th AIC Congress, which will take place in Newcastle-Gateshead, Great Britain, July 8–12, 2013. After the Congress we are looking forward to the following meetings: in 2014 the AIC Interim Meeting in Oaxaca City, Mexico; in 2015 the AIC Midterm Meeting in Tokyo, Japan in May; and in 2017 the 13th AIC Congress in Korea.

Finally, I would like to encourage you all strongly to contribute with news, information and ideas to the AIC Executive Committee. Please send information to our AIC website (Verena M Schindler), AIC e-news (Berit Bergström), AIC wiki workspace (Maria Musso) and AIC Annual Report (Lindsay MacDonald). Together we can be that important world community of people all fascinated by colour!

See you in Taipei...


Berit Bergström, AIC President



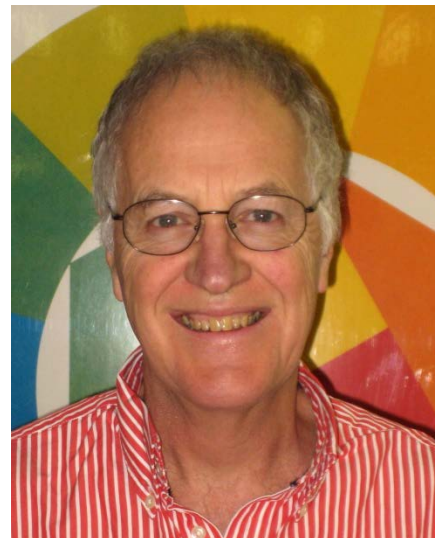
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AIC ACCOUNTS

Accounts for the period 1st January 2011 to 31st December 2011 prepared by the AIC Treasurer, Nick Harkness.

UBS Opening Balance 1st January 2011	CHF 9,973.07
Transactions in the period 1st January 2011 – 31st May 2011:	
Income from members (USB) – Electronic or Bank Draft	1,670.00
Bank interest	2.35
Bank fees	-25.00
2010 Newsletter – University of the Arts London – Printing	-1,568.50
Cash transfer	2,309.82
Closing Balance 31st May 2011	CHF 12,361.74



Opening Balance 1st June 2011	CHF 12,361.74
Transactions in the period 1st January 2011 – 31st May 2011:	
Income from members (USB) – Electronic or Bank Draft	683.00
Income from members – Cash	950.00
Bank interest	8.15
Bank fees	-70.00
Closing Balance 31st December 2011	CHF 13,932.89

Letters for period 1st January 2010 to 31st December 2011 from the AIC Auditors, Dr John Hutchings and Prof Jin-Sook Lee.

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Nick Harkness,
Secretary-Treasurer Association Internationale de la Couleur
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Alexandria
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2nd February 2012

Dear Nick,

Accounts Examination

AIC accounts for the two years ending 31st December 2011

I have copies of the AIC accounts and bank statements relating to the two years ending 31st December 2011.

I am happy to report that the UBS Bank Basel account statements agree with the records of income and expenditure for the above period. The closing balance in the UBS account at 31st December 2011 is 13,932.89 CHF. The cash in hand dating from the time of the last examination of accounts has been paid into the USB account. There is at present 100 CHF held in cash.

Yours sincerely,

Prof. Jin-Sook Lee
Chungnam National University

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Dear Mr. Harkness,

Auditor's Report
AIC 2010-01-01 ~ 2011-12-31

I am happy to report that the UBS Bank Basel account statements agree with the records of income and expenditure for the above period. The closing balance in the UBS account at 31st December 2011 is 13,932.89 CHF.

Yours sincerely,

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AIC 2011 MID-TERM MEETING – ZURICH, SWITZERLAND

The AIC 2011 Midterm Meeting, held on June 7–10 in Zurich, was hosted by pro/colore – the Swiss Colour Association. The conference theme explored the 'Interaction of Colour & Light in the Arts and Sciences', a topic inspired by important research projects conducted by the Colour Light Centre (CLC) under the direction of Prof Ulrich Bachmann (Technical Chair). The Organising Committee also included Florian Bachmann (Publicity Chair), Stephan Cuber (Publications Chair), Eveline Staub (Social Events Chair) and Daniel Pfeffer (Financial Chair), as well as the Papers Committee members Prof Sabine Süssstrunk, Dr Stefanie Wettstein, Dr Marcus Pericin, Prof Brian Funt and Verena M Schindler. The last two further acted as Programme Co-Chairs. The dedication and hard work of the team ensured that this long-term adventure beginning at the AIC Congress in 2005, under the Andalusian sun in the gardens of the Alhambra, turned out to be a great success.

Due to unprecedented demand the venue at Zurich University of the Arts (ZHdK) was already fully booked by the early registration deadline on March 11th. Out of 325 abstract submissions and on the basis of reviews by the 30 members of the international advisory committee, an exciting single-track programme was selected including a total of 193 papers. Forty-five orals and 144 posters were presented. In addition, each of our three main sponsors invited a speaker, including the CLC research team of ZHdK who gave the opening lecture, Markus Reisinger (invited by Philips AG Lighting) and Lino Sibillano (invited by NCS Colour Centre Switzerland). One of the highlights was the Judd Award lecture by Dr Lucia Ronchi on aspects of colour vision that should be addressed by future researchers. Attendees congratulated the organising team 'for putting together an exceptionally strong and well-structured programme'. The quality of the papers was described as 'superb' and having a positive impact on the attendees' own research and professional interests.



Oral presentation in the ZHdK auditorium

The ZHdK auditorium ensured that the projected colour image rendering was of high quality. Additional projections on the sidewalls had the stimulating effect of a Gesamtkunstwerk (an all-embracing artwork). According to one delegate: "The wall lighting was very fitting for a watershed conference

marking the end of constant lighting and beginning of dynamic modulated lighting." In the words of another attendee: "Everything was done with a high degree of refinement and elegance: the colours were thought out in harmony down to the smallest detail." The poster exhibition, sponsors show and catering were held on the lawns of the ZHdK in a marquee specially erected for the occasion. "Everything was done with proverbial Swiss efficiency" wrote one participant from Italy. Another of the many enthusiastic feedback comments praised "the perfect organisation that fostered an atmosphere of serenity, openness and intense exchange".



Technical Chair Prof Ulrich Bachmann (centre) with the Colour & Light performance on the auditorium's sidewalls.

Participants were also impressed by "meeting with all those people coming from all over the world who are working on the very same theme: Colour!" A total of 332 attendees came from 38 countries: Switzerland, 59; Japan, 47; South Korea, 27; Germany, 23; UK, 21; Italy, 19; France, 18; Spain, 15; Taiwan, 14; USA, 11; Sweden, 10; Portugal, 7; Iran, 5; Thailand, 5; Australia, 4; Brazil, 4; Canada, 4; Croatia, 4; Slovenia, 4; Turkey, 4; Austria, 3; Belgium, 3; Russia, 3; Argentina, 2; Netherlands, 2; Poland, 2; Chile, 1; Denmark, 1; Estonia, 1; Finland, 1; Hong Kong, 1; India, 1; Malta, 1; Norway, 1; Serbia, 1; Singapore, 1; South Africa, 1; Ukraine, 1.

The AIC Executive Committee members met on Tuesday, June 7th, followed by a Welcome Reception in the marquee accompanied by the Ziegler-Jeger-Till jazz trio. As part of the Social Programme participants enjoyed the city of Zurich's colours during a walking tour through the old city centre on Wednesday, June 8th, and on the afternoon of Friday, June 10th, with an excursion to see environmental colour design in new developing districts, followed by a reception at Haus der Farbe – a Professional College for Colour Design. On Tuesday, June 9th, the conference dinner was held at the marvellous Meisen Guildhall. A couple of alphorn players from Lucerne welcomed the guests and Töbi Tobler performed an ingenious solo concert with hammered dulcimer and voice.

A free version of the book of abstracts can be downloaded from our website and a printed copy including the Proceedings CD is for sale at www.aic2011.org

– Verena M Schindler, AIC 2011 Conference Chair



The AIC Judd Award was established in 1973 to honour the memory of Deane B Judd, and is presented every two years. It is the highest honour that can be bestowed by the international colour community. The Award recognises work of international importance in the fields of colour perception, colour measurement, and/or colour technology. The members of the 2011 Judd Award Committee were: Paula Alessi, Robert Hunt, John Hutchings, Mitsuo Ikeda, Daniel Lozano, Alan Robertson, Lars Sivik, Gunnar Tonnquist, Pieter Walraven and José Luis Caivano. There were three candidates.

The 2011 recipient was Dr Lucia Rositani Ronchi, who was honoured at the AIC Midterm Meeting in Zurich. In his citation, Prof Manuel Melgosa noted that to date only two of the recipients of the Judd Award have been women: Dorothy Nickerson (1975) and Dorothea Jameson (1985, together with Leo M Hurvich). Lucia Ronchi (widow of Rositani) graduated in Physics at the University of Florence in 1948 with a PhD Thesis in Astronomy, on the Milky Way. In 1955 she became 'Libera Docente' in Physiological Optics, and from 1956 to 1992 she was responsible for psychophysical and electrophysiological experimental activity in the Visual Laboratory at National Institute of Optics. Since 1949 she has published 293 papers of the *Atti Fondazione Giorgio Ronchi* (<http://ronchi.isti.cnr.it>), edited the *Journal Luce e Immagini*, and has also authored many other articles in scientific Journals.

From 1983 to 1991, for two quadrennial terms, Lucia Ronchi was the Director of CIE Division 6, Photobiology and Photochemistry, dealing with visual and non-visual effects of optical radiation on man, animals, vegetables and materials. She was President of AIC from 1993 to 1997. Dr Ronchi has made significant contributions to numerous scientific fields: electro-retinography, visual perimetry, colour vision deficiencies, lighting technology, biological effects of visible light, education in visual optics, computational visual modelling, and colour in landscape and architecture.

Prof Melgosa concluded: "over many years Lucia Ronchi has achieved the highest scientific appreciation and friendship of a large number of researchers in colour science around the world. For me and many other colleagues in colour community it is a great pleasure to meet her in new scientific meetings. We highly appreciate Lucia's wise guidelines and answers to the scientific questions on colour and light raised in our everyday work. In particular, I feel really proud of her friendship since we met first at the AIC meeting in Budapest in 1993, and one year later when she was invited to the II National Colour Meeting of Spain."



Dr Lucia Ronchi with AIC President Berit Bergström and AIC2011 Conference Chair Verena M. Schindler.

In her presentation 'Experimentation in Color Vision', Dr Ronchi gave a panoramic view of the many aspects of vision research in which she has been involved, documented in an accompanying 40-page booklet. She noted that the Vision Sciences are often unable to explain the visual processes and mechanisms underlying the perception of images created by the Visual Arts. She described how the human visual system, like other physical systems, can be modelled as a 'closed box', governed by laws relating input (light stimulus) to output (response). Extensive research has shown that colour vision can be well described quantitatively by functional laws, utilised in various applications: lighting engineering, ophthalmology, visual instrumentation, and occupational medicine.

She then explained the challenges of extending research 'from the simplicity of captivity to the jungle of reality', i.e. moving out of the vision lab into the complex viewing environments of the real world, taking advantage of imaging science. In some situations a solution can be found only by passing from the local to the global, by abandoning the traditional approach where a single factor is varied and adopting a multivariate approach. As an example she pointed to the problem of visual balance, as an extension of the concept of bilateral symmetry. In the painting below, the subject is asked to draw a vertical line that divides the scene into two equal parts, and the result is often surprising. Thus we see how the arts and sciences interact and inform and enrich one another.



'Dante and Beatrice', 1883, by Henry Holiday (1839–1927)

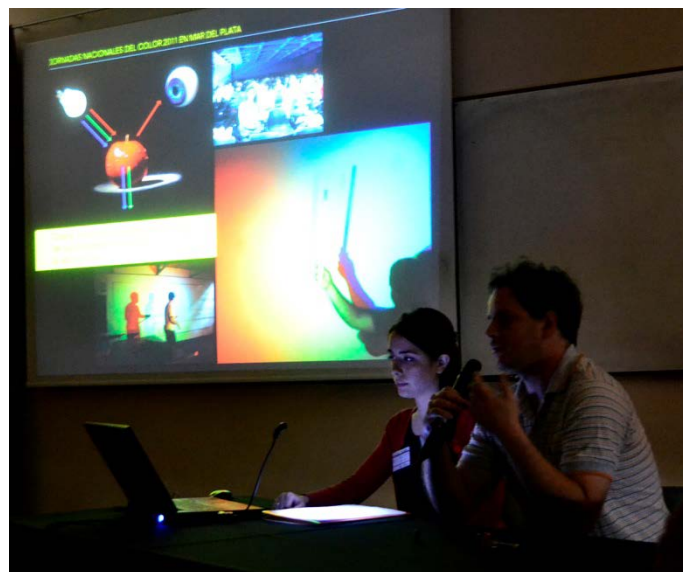


The Argentine Color Group (Grupo Argentino del Color, GAC) was founded in 1980, and brings together institutions and individuals who share an interest in the study of colour science and

applications. The goals of the Group are to encourage research on problems related to colour, to promote the exchange of information with similar associations abroad, to manage a documentation centre, and to integrate the different fields from which the study of colour can be addressed: science, technology, design and education. There is also strong interest in the Group from the artistic community in the development and diffusion of their works.

The Visual Arts Area of the GAC continued its creative programme with an exhibition held in May 2011 in the House of Culture, San Fernando, province Buenos Aires, coordinated by María Eugenia Bravo y Natalia Lamorte. GAC members included the artists: Silvia Barrios, Daniel Delgado, María Eugenia Bravo, Daniel Castro Cuccini and Omar Burgos.

Intended to promote dialogue and exchange of ideas between artists, critics, curators, researchers and art historians, the 3rd National Conference of Color in Arts was held on 17 June at the School of Architecture, Design and Urbanism, University of Buenos Aires. 20 oral papers were presented on colour in personal work, colour in art history, colour in contemporary art, colour in education, and colour in art technology.



Presentation by Lucia Maillio and Matías Castellá Esplugas.

During the National Conference in November it was decided to establish March 21st as the Argentine Color Day, linked to the International Day of Colour and Light. We are enthusiastic about the celebrations planned in 2012!

During 2011 a report was presented to the National Endowment for the Arts on the results of the first part of an interdisciplinary research project in rock art. This was done in the province of Catamarca, and included Omar Burgos of the Argentine Color Group, working with the School of Archaeology of the National University of Catamarca and the National Institute of Industrial Technology.

The project (which continues in 2012) dealt in its first stage with the study of 27 caves and eaves at the location of Ancasti. Through photographic survey, the brightness condition of the paints was studied and the colour and art was analysed in the archaeological context. Subsequently a chemical analysis was carried out to determine the pigments and binders present in the paintings. The research results were also presented in the format of a Visual Arts exhibition at the Museum of the Argentine Senate in June 2011.



Carolina Díaz Azorín, Susana Arrachea and María Paula Giglio, organising committee of the Color 2011 conference.

The National Conference of Color was held 11-12 November at the School of Architecture, Design and Urbanism of the National University of Mar del Plata, province Buenos Aires, with the presentation of 21 oral papers and 11 posters, on topics of Color in Industry, Technology and Science; Color in Architecture and Design; Color in Art and Color in Education. Thirteen papers from the AIC 2010 Interim meeting on 'Color and Food' were again presented with the intention of disclosing in Spanish language these new studies in the field.



Anthropomorphic figure, La Candelaria cave, El alto Ancasti, Catamarca, Argentina.



The Future of Colour was discussed at length during the CSA's biennial conference held in Launceston, Tasmania in September 2011. Hosted by our Tasmanian division which is chaired by National President Rex Hesline, we were presented with a full lecture and social programme which left us all in no doubt that colour does indeed have a strong future.

The speaker programme combined local Tasmanian experts working on a national or international basis, with speakers and delegates from all Australian states. This conference also marked the Silver Jubilee of CSA, and all the session chairs were past National Presidents and Divisional Chairs in recognition of this. Subjects ranged from colour physiology, colour in the built environment, colour pigments for heritage, Tasmanian timbers, use of colour in art, lavender farming, the public profile of colour, and the story of earth's geological past – all discussing the Future of Colour. From sitting bleary-eyed in the Botanical Gardens early in the morning to visiting one of the oldest decorated houses in Tasmania and learning about early wallpaper trends, we experienced a diverse programme that satisfied all attendees.

During the conference dinner (with requests to wear something silver largely ignored) a history of CSA and its involvement was presented along with an overview of our journal *Spectrum*, originally printed in hard copy, now updated and online. Much laughter resulted from old photographs of early members at various meetings and conferences around the globe and here in Australia.

To mark the 25 years of the Society, a special presentation was made – the Colour Society of Australia Silver Jubilee Award was given to a well-respected gentleman who has played a key part of our history, and someone well recognised for his knowledge, development and innovative work in surface coatings both in Australia and overseas. Dr Peter McGinley, a very humble and surprised recipient, was saluted by all those present with this fitting tribute – a large specially engraved crystal prism.



Present and former Chairs of CSA at the Silver Jubilee Award Dinner 2011: (left to right) Derek Grantham, Peter McGinley, Paul Green-Armytage and Rex Hesline.



Derek Grantham doing a 'phoofoo valve' in a night session at the Museum.

Our state divisions continued in most cases to grow in 2011 – each hosting innovative workshops with knowledgeable industry speakers. Colour weekends, particularly those in Western Australia and Queensland, are increasing in popularity and provide opportunities to include creative sessions for members and friends of CSA. Our website is evolving, with many compliments for the content, and we plan to involve each division in the design changes of this.



The Colour Lab in Prahran, Melbourne.

A highlight in October was the Victoria Division's visit to the Victorian Archives Centre to see their work on frames, paintings, paper, photographs and textiles. For restoration they use proprietary materials where possible but often need to make up oils or watercolours, taking great care with pigment selection to get the colour right. The final meeting for 2011 was held at the Colour Lab in Prahran where members and guests enjoyed the colourful surroundings of the shop and cafe, and the camaraderie of colourful people.

During the year CSA took the initiative to trial a national interactive online webinar presentation to members across Australia, using as a case study the redevelopment of Walsh Bay situated on the foreshore of Sydney Harbour. Following the presentation, questions could be entered for the presenter to respond to. Whilst there were some technical hitches, the overall assessment was positive, and another webinar is planned in 2012. This technological initiative could well prove to be a great asset in our vast country which spans several time zones.



for life and power – reflected in the traditional festivals held all over the country: The Feast of the Divine, Parintins Folklore Festival and Carnival, among other colourful enjoyments.

In the first half of 2011, Associação Pró-Cor Do Brasil developed its new logo, sleek and stylish, designed by Escola Superior de Propaganda e Marketing (ESPM), São Paulo in a project coordinated by Prof Dr Marcello Montore. Pró-Cor Do Brasil also has a new website at www.procor.org.br

A retrospective of the AIC 2011 Zurich meeting 'Interaction of Colour & Light in the Arts and Sciences' was held at Pró-Cor headquarters at the Federation of Industries of São Paulo (FIESP). The lecture was delivered by Prof Dr Paula Csillag, Vice-President of Pró-Cor and an active participant of AIC 2011 Zurich. The meeting was attended by members, as well as Mr Isaac Roizenblatt, Technical Director of the Brazilian Association of Lighting Industry (ABILUX).



Bixiga neighbourhood, Gregorio Gruber (1997)

The history of Associação Pró-Cor Do Brasil was featured in *Piauí* magazine, which is edited by one of the country's most respected newspapers *O Estado de São Paulo* (OESP) in the article: 'Yellowing, never – How acts an Association that fights for a more colorful Brazil'. The journalist dared to ask the committee members what was their favourite colour, and reported: 'The Secretary wavered, and, in a possible attempt to curry favour with his superior, answered unconvincingly that it is yellow "being associated with wealth". The Vice President went on a tangent in a professorial relativism, "It depends on the circumstances. I have a favourite colour for enamel, another for the car, and so on." From President Paul Felix one expected a more vigorous action to put an end to the issue as black and white. Diplomatic, however, he preferred not to be unfair with any hue, mindful of the weight that would lend authority for his statement, and said "Sorry, but there is no exact answer to that question."'

Brazil has a strong vocation for colour, so called because of the coal fire or the transformation of matter (darkness) into light. This means colours, warmth, passion, lust

Pró-Cor collaborated in a special cover article published in *Planet* magazine about colour psychology: 'The power of color and its psychological meanings'. Also, University TV broadcast an interview with Prof Dr Paulo Felix about colour in São Paulo – which emphasized the initiatives of Pró-Cor and Mundocor in the conception of the Movement São Paulo Plus Beautiful.



Paulo Felix opening the Session on Brazil Color Day.

The Brazilian Day of Color, September 21st, was celebrated with lectures in the Escola Superior de Propaganda e Marketing (ESPM-SP). Karl Johan Bertilsson of the Natural Colour System presented the opening speech about the NCS unique language of colour: 'How to use the NCS System in Design and Architecture'. The expert Herta Lenhardt of X-Rite, the leading company for colour measuring instruments, gave the lecture: 'Keeping the loyalty of Digital Color Printing'. And, from the Faculty of Architecture and Urbanism of the University of São Paulo – FAU USP, Prof Dr João Carlos O Cesar spoke on 'The use of Colour in Architecture'. The final round-table was mediated by Dr Paula Csillag, Professor of Color Design at ESPM, who proposed 'Reflections about the uses of Color New Technologies and Tools in Design and Architecture'. The Brazilian Color Day at ESPM was a great success – the event was attended by 350 participants including architects, decorators, designers and many students.



Prof Paula Csillag, Vice-President of Pró-Cor

Associação Pró-Cor Do Brasil and the National Industrial Apprenticeship Service, one of the most important centres for professional education for the textile industry in Brazil, have started collaborative conversations to establish partnership to promote technical and scientific exchange among academics, colour experts, professionals, businesses and companies. These will be achieved through activities related to education, innovation, research for the solution of problems, dissemination of knowledge and applications to sustainability in the field of colour.

ГРУПА ЦВЯТ БЪЛГАРИЯ



COLOR GROUP BULGARIA

In 2011, the association of Color Group Bulgaria continued its scientific and popularising activities in the domain of colour science, while organising and holding scientific forums, and through its publishing activities. In March, we held a joint workshop, according to our good tradition, together with the Varna Free University 'Chernorizets Hrabar' on the topic of 'Contemporary trends in color: architecture, design and interior'. The invited lecturers from the Color Group Bulgaria showed their new developments to the students. During 2011, two issues of the Bulletin of Color Group Bulgaria (No. 23 and No. 24) were also published.

The main event of the 2011 agenda was the international scientific conference on Color and Language, held June 23–24. This was jointly organised with the Centre Français de la Couleur and was hosted by the Centre for Intercultural Communication and Mediation at the University of Sofia 'Saint Kliment Ohridski'. Representatives of 6 universities and other scientific and public organisations from Bulgaria and abroad, presented 26 lectures. There were 4 plenary lectures by special guests of the event: Prof Moni Almalech from the New Bulgarian University, on research in colour semiotics; Dr Annie Mollard-Desfour, president of the Centre Français de la Couleur; Prof Serge Tornay; and Prof Michel Albert-Vanel, an honorary member of Color Group Bulgaria. The French lecturers presented their research on coloristics and naming of colours. Dr Mollard-Desfour presented her series of books on different colours, sharing her expertise in the preparation of this type of specialised edition. The conference was accompanied by the exhibition on 'Color language in clothing' by Dr Lyubka Ivanova from the Varna Free University 'Chernorizets Hrabar'. The abstracts of all lectures were printed in a bilingual book, and the full texts were published on CD (ISSN: 1314-3883).



In October 2011, the Second Biennial showcase of Bulgarian design was held in the National Center for Contemporary Art in Sofia, under the motto 'Design or Crisis'. The Biennial turned into the leading event of the cultural life of the capital, and brought together designers working in Bulgaria and abroad. It became the centre of a rich programme of associated events, including an international scientific conference, workshops, lectures, artistic and business meetings. The Color Group Bulgaria was one of the co-organizers of the event, as a public organisation that fosters, through the work of its members, the development of Bulgarian design. Our main contribution was to organise the international scientific conference on contemporary problems of design, during which 38 lectures were given by representatives of five Bulgarian universities and the Bulgarian Academy of Sciences. All lectures and presentations were published on CD (ISBN: 978-954-92092-6-6).

In April 2011, we celebrated the 100th anniversary of Prof Dr Razum Andreychin (1911–1997), the founder of a national association of colour science and colorimetry in Bulgaria. His contributions to the development of European science are undeniable, and we are proud that his name is also connected with the origins of specialised scientific work on colour, continued today by our association. One of the main principles of this development is the access to information. That is why we dedicated the traditional national symposium with international participation on the topic 'Education – Training – Results' to the memory of Prof Dr Andreychin. This symposium was held within the framework of the Fest 'Education – Training – Results', organised by the Dept of Fine Arts at the New Bulgarian University, on the occasion of its 20th anniversary. Sixteen lectures were given by the professors of the University, with the leading participation of the specialists of Color Group Bulgaria. All the materials of the symposium were published on CD (ISSN: 1314-5142).



Dr Lyubka Ivanova, author of the exhibition 'Color language in clothing', examining some of the artworks.



Colourful Bulgarian and French participants in the 'Color and Language' conference held on Midsummer Day (our president M. Dobrevski is holding the bunch of healing plants).



ASOCIACIÓN CHILENA DEL COLOR

The Chilean Colour Association (ACC) is an instance where Chilean professionals and other interested people from different areas find a place

for dialogue, research, work and discussion about colour. It has been a member of the AIC since 2009.

The Chilean Colour Association has a new Board of Directors for the period 2011–2014. The goal of the new Board is to continue the good work led by Elisa Cordero in the city of Valdivia from 2008–2011, and also to make a formal application to host an AIC Meeting in Chile, perhaps in 2016. The new Directive Board is composed of Paz Cox, President of the ACC; María Rosa Domper, Vice-President, and Ingrid Calvo, Director of Extension.



Elisa Cordero (centre) hands over the Presidency of ACC to Paz Cox (right), while Marcos Matus (left) looks on.

Held in October, the Colour Seminar '3 Miradas sobre color' (3 Views on Colour) took place in Santiago. The first day consisted of two oral conferences (covering the topics of colour history in art, colour data visualisation, colour models, pre-Columbian textile colours, colour instrumental capture). The main talk of the event was 'Does colour exist?', by the Italian colour specialist Renata Pompas. She made a brief analysis of practical applications of colour in decoration, graphic design, advertising fashion, textiles and architecture, among others, stating that because colour does exist it must be applied as a conscious phenomenon in each specific area. The next two days of the Colour Seminar consisted of an extended workshop 'Colour combinations for projects' run by Renata Pompas. She expressed two different methodologies for obtaining colour variations, worked in graphic software. Twenty students attended.

Grupo Color Santiago: In June 2011, the Santiago Colour Group organised a 1-day colour event with all its members. This consisted of a brief seminar to spread the most relevant and recent colour works and projects performed by some of the Colour Group members, and also to propose new challenges for 2012.

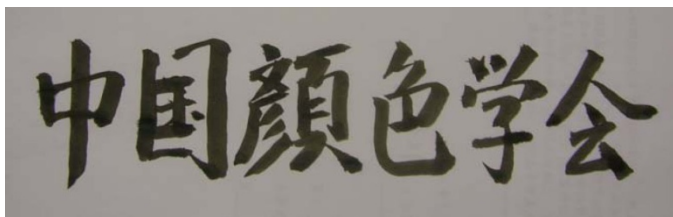


Seminar organised by Grupo Color Santiago.

Grupo Color Valdivia: In the city of Valdivia, was conducted a project about colour and landscaping in a social housing estate, sponsored by the ACC and Red Talloires (an organization of university social responsibility), with funding provided by the American Foundation Wal-Mart and coordinated with the national foundation 'Un Techo para Chile'. The project's design was made within the course 'Color' at the School of Architecture at the Universidad Austral de Chile. Leading the academic activity was Elisa Cordero, member of the ACC, in collaboration with academics and students of Anthropology and Forestry. This project enabled the students to get involved with colour in a trans-disciplinary way and with a real assignment, and they made a big contribution to the quality of life of poor families.



Grupo Color Valdivia colour housing project: (top) briefing by Elisa Cordero; (bottom) Studio colour selection.



The Color Association of China is one of the committees of the Chinese Optical Society (COS), specialized for vision and colour. As the National Color Association it joined AIC in 1986, together with Division 1 (vision and colour) of the China Illuminating Engineering Society. Its objectives are to encourage the research of colour science and its application in different aspects, and through seminars to exchange information and new colour technology.

The symposium 'Color Science and Imaging Technology' was held 5–8 September in Shenzhen, together with the annual conference of the Chinese Optical Society (COS) and the 13th China International Optoelectronic Expo (CIOE2011). The topics of colour vision, colour-difference evaluation, colour metrology, colour imaging technology, etc. were included. Especially several aspects of LED illumination were discussed in depth, including spectral optimisation and colour temperature tunability of white LED, the colour rendering properties of LED lighting, and related applications of LED. This conference provided a platform for delegates to present their latest research achievements and also to grasp the current academic development and future directions in the field of colour science and imaging technology.



The 2011 symposium of the Color Association of China together with the annual conference of COS and CIOE2011.

The Forum of Industrial Color Design and Application took place in Beijing on 25th May, supported by the RAL Company of Germany. More than 140 participants attended from diverse industries, which will surely drive the fast advancement of colour design and applications in China.

The 7th Asian Color Forum was held in Shanghai on 19–20 October on behalf of the Color Union of Asia. About 50 international guests and more than 200 experts, scholars and designers joined this activity from diverse countries including

China, Japan, Korea, Thailand, Indonesia, America, England, Germany, etc. The theme was 'Color Communication and Color Marketing', relating to the actuality and development of various colour industries, colour economy, colour standards, colour management and control, oriental colour culture and fashion, etc. in Asia.



The assembly of the 7th Asian Color Forum in Shanghai in October 2011.

The opening meeting of the technical programme 'Research on the development of color technology' was successfully completed in Hangzhou on 5th May. This report investigated the main advances in the past 5 years in the fields of colour science and applications, involving several specialties such as the colour of lighting and imaging, standardisation and digitisation of colour, colour selection for industrial design, city architecture and colour appearance, the colour of costume and textiles, etc.

The 6th annual meeting of 'Color China' was held to develop the model and examples of colour application and fashion innovation in China, to upgrade the competitive power of fashion products, to speed the development of fashion industries, and to promulgate fashion ideas to the public. The awarding celebration in Shanghai on 18th October was attended by more than 300 guests, including government officers, international experts, and industrial and university representatives.



The awarding celebration of the 6th annual meeting of 'Color China' in October 2011.



The « Centre Français de la Couleur » was created in 1976 and is the French member society of the AIC. The CFC is, above all, a centre for the exchange of ideas, on both national and international levels, through enhanced communication and cooperation between those of all disciplines and professions involved in the culture of colour. The CFC makes available to its members various means of communication: a brand new web site at www.cf-couleur.fr (reworked in 2011 by Laurence Pauliac, Secretary), seminars, colloquia, publications, etc. Newsletters about colour activities are frequently sent to CFC members together with an issue of our magazine *Primaires* (in reference to primary colours), a complete magazine on colour published each year.



The blue face of « Pierrot le fou » from 'Corps bleus et Cinéma' by Magali Abad, Primaires, January 2011.

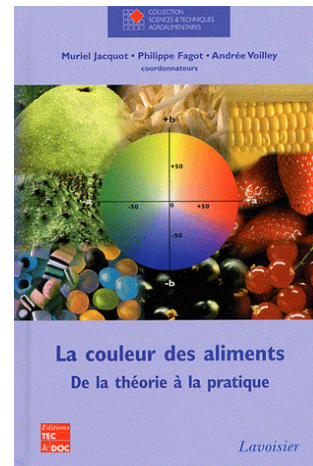
In 2011 we took part in or organised:

- « Les paysages du blanc » (a meeting around white), organised by Michel Indergand, École Estienne, Paris, 3/02, with lectures by Michel Indergand and Annie Mollard-Desfour.
- Our Annual Colour evening: lectures by members of the CFC (Magali Abad : « Le bleu des ombres », Michel Indergand, « La science des couleurs d'Alphonse Allais »), and one guest (Véronique Antomarchi, « Les couleurs dans le monde nuit, la référence anatomique »), Paris, 22/03.
- The co-organisation of the annual « École de printemps » (Spring School) in Roussillon, « Le noir et le blanc » (28/03-01/04) in partnership with the CNRS (French National Centre for Scientific Research) and OKHRA company, with lectures by various members of the association.
- The « Chromatiques » (9-10/07) Festival in Fos-sur-Mer (South of France), an annual festival around colour. The 2011 thematic colour was 'vert' (green).
- Participation in the AIC Interim Meeting : Interaction of Colour & Light in the Arts and Sciences, (7-10/06), at Zurich University of the Arts, with posters presented by various members of the CFC.

- A Scientific Day, Lille, École HEI (Hautes Études Ingénieur), 12/12 Co-organised with HEI. « Mesure de la couleur : les causes des désaccords » (Measure of colour: the causes of disagreements).

Our 2011 publications included:

- *Primaires* n° 172 (editorial and publication directors: A. Mollard-Desfour & Laurence Pauliac).
- Articles from several members of the CFC in the CNRS / OKHRA Spring School proceedings.



- Books or chapters of books:

- ° Muriel Jacquot et al., *La couleur des aliments. De la théorie à la pratique*, Lavoisier.
- ° Bernard Valeur, *La couleur dans tous ses éclats*, Belin.
- ° Adeline Grand-Clément, *La fabrique des couleurs. Histoire du paysage sensible des grecs anciens*. (XIIIe-début du Ve.av.n.è), éd. De Boccard.
- ° Michel Blay, *Lumières sur les couleurs du monde vivant*, Éditions VillaRose.

CFC members were invited to many events in France and worldwide to give lectures, interviews and present their work (Michel Albert-Vanel, Annie Mollard-Desfour, Patrick Callet, Bernard Valeur, etc.) Numerous interviews (radio, television, print media) provided exposure of the CFC (RFI, France Inter, France Culture, Arte). Some artist members (Magali Abad, Martine Lafon, Denise Houssard, etc.).





The 37th annual conference of the DfWG was held in October at the PTB (Physikalisch-Technische Bundesanstalt) in Braunschweig on the special

topic **80 Years of Colorimetry**. The keynote speaker was Prof János Schanda, who gave a fascinating survey of CIE matters from the early stages of the CIE Standard Observer to the current activities of CIE Divisions 1 and 2. Peter Bodrogi continued with a paper 'Colour rendering properties of phosphor-converted white LEDs and multi-component white LEDs', in cooperation with Tran Quoc Khanh at their institute at TU Darmstadt, one of the leading research locations in this field. Armin Sperling informed participants about research at PTB on spectral measuring instruments and gave a brief insight into the pros and cons of 'small' and 'cheap' spectral measurement devices. Andreas Hoepe reported on his research on materials used as reflectance standards and on the services PTB is able to offer in this area to international customers. The evening of the first day was celebrated in „La Cupola“, a stylish restaurant on the top floor of the House of Science at TU Braunschweig.



The next morning started with a paper from Eva Luebbe, entitled 'Experimental Verification of the Saturation-Formula'. Then the recipient of the 2011 'DfWG Förderpreis', Johannes Brauers, reported on his work 'Algorithmen und Verfahren zur geometrischen Korrektur und hochdynamischen Auswertung von Multispektralaufnahmen'. Peter Bodrogi presented his paper 'Spectral reflection of natural products and materials for the interior'. The last speaker was Andreas Kraushaar on 'Colour expectations in Digital Printing – identical, media-relative and consistent colours'. In the afternoon all participants had the opportunity to visit the PTB laboratories for radiometry and reflectometry, where a variety of measurement set-ups were demonstrated by laboratory staff.

DfWG members are working in many different areas in application and research and are active in promoting colour measurement. As there has been a demand from industry to re-evaluate the colour coordinates of signal lights, especially for railway systems, DIN has re-activated the working group for DIN 6163. This has been motivated by obsolete international standards in the field and the recent extensive introduction of LED signal lights.



The German Colour Centre (DFZ) held its 49th Annual Meeting at the Olympic Sailing Centre in Kiel, on the topic **Colors: love 'em and live 'em**. The meeting was a retrospective, reflecting on the last 50 years of the DFZ and a vision of our future. Like everywhere organisations have to face the challenges and opportunities in the rapidly changing world of communications. These changes are also taking place in knowledge about the phenomena of colour and light. New results in research, changing ways of acquiring information, and virtual communication systems demand adapting and ever updating methods of meetings, research and reception.

Thus, one workshop was busy preparing for the celebration '50 years DFZ' on 6th October 2012. Other activities had topics that ranged from the need to the fun of change. For example, in the workshop 'Bonding', led by the artist



Gisela Meyer-Hahn, both young and older members expressed their mutual reflections about the DFZ network using colourful ropes and ribbons. What inspires us? Towards what is our development leading? Will we all sit in 'one boat' or will we sail individually into the unknown, globalised future? How may we honour tradition without losing the view for the future and for the needs of the following generations in DFZ?



All members contributed very actively to discussions, presentations and reflections. We thank them all and keep on looking forward to creating the appropriate structures and contents for the presence and the future of the DFZ.



There are two main thrusts of the Colour Group's activities – it supports two Teaching Fellows and runs a series of the monthly meetings held between the autumn and summer each year.

During 2011 the Colour Teaching Fellows visited 14 secondary schools and three outreach centres and spoke to 1000 pupils (mostly aged 16 or 17) and over 100 adults. These were in south

Scotland, west Wales and the Home Counties: the picture (right) shows Prof Ronald Douglas dealing with questions after one lecture at a secondary school just outside London.

The programme of meetings ranged from the traditional to a new form of all-day networking event. The tradition is that every January the Group has a colour vision meeting at the Institute of Ophthalmology in London, at which it sponsors the Palmer Lecture and Cambridge Research Systems sponsors another guest lecture. In 2011 the Palmer Lecture was given by Prof Arne Valberg (Institutt for Fysikk, Trondheim) and the CRS Sponsored Lecture was by Rigmor C Baraas (Buskerud University College, Kongsberg). In February, there was to be a meeting to award the Group's Turner Medal to the popular British artist Bridget Riley but she was taken ill and the meeting had to be cancelled at only three hours' notice, leaving a disappointed audience. The next meeting was also missing its 'star' as it was a memorial meeting to honour the life of Margaret Halstead. The title was 'The Colour of Light', Including material on new light sources and colour rendering, areas in which Margaret had made important contributions. Several former colleagues spoke and the principal address was given by Prof John Mollon of Cambridge.

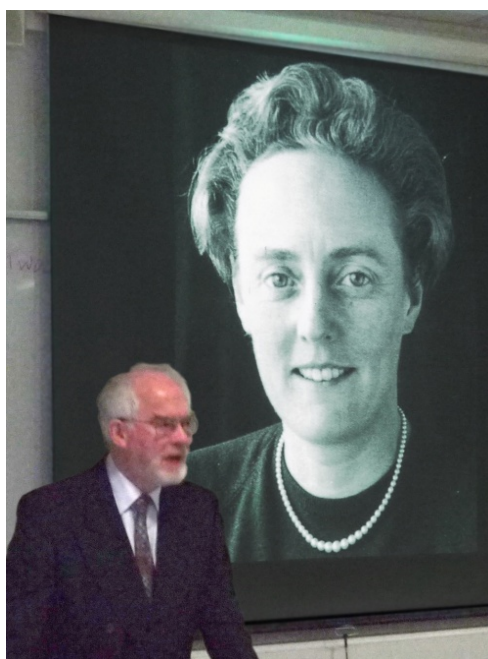
In the summer three joint meetings dealt with the legacy of Francisco Varela (1946-2001), the innovative and influential cognitive scientist, a meeting on photoreception in honour of James Bowmaker, and a symposium on mesopically enhanced road lighting.

During the year four Palmer Awards were made to postgrad and postdoc researchers to help them to attend meetings to present their work, and in October they repeated their presentations for Colour Group members. These awards are made in memory of David Palmer, a vision scientist known mainly for his work on mesopic vision. In his later years he was appalled by the way successive Governments mistreated science, scientists and those being educated in science. In his will he left substantial sums to several organisations, including the Colour Group, to continue educational outreach in science.



Prof Ron Douglas, Colour Teaching Fellow, answering questions after his lecture 'Does my Goldfish See Colour?'

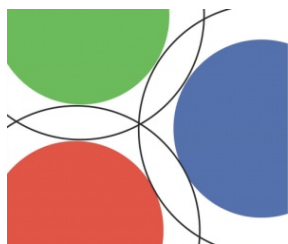
In November several artists showed their work and described why colour is so important to their inspiration and the execution of their pieces. The audience was enthralled by what they saw and, it is rumoured, several sales were made. At the end of that month there was a new type of meeting aimed at anybody interested in BLUE. The audience was largely from the textile and fashion industries who took full advantage of the space for networking, with suppliers talking to dyers, designers talking to vision scientists, and colour consultants talking to everyone. The morning was mainly concerned with blue dyes, especially indigo, and the afternoon with, unsurprisingly, blue denim and current trends in jeans. Several well known companies were represented at the event, including Marks & Spencer and Jeanologia. Overall, 2011 was a successful year with a wider-than-usual range of topics. This is a trend that the Group intends to continue.



Prof John Mollon introduces the memorial meeting for Margaret Halstead.

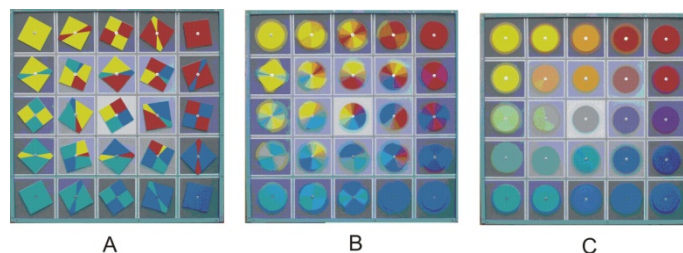


At the Blue Event, properties of organic denim were thoroughly scrutinised.



The Hungarian National Colour Committee was founded in 1969. Since then its continuously operating Work Groups have dealt with colour reproduction, colour vision, colour environment design, fine arts, industrial application of colour, colour measurement and synaesthesia. They have organised numerous exhibitions and popular science lectures, and have completed many research reports. The most important in 2011 were the following:

The 33rd Symposium on Coloristics dealt with the physiological effects of colour and light. The 42nd Conference on Street Lighting dealt with application issues of recently developed light sources. The 2nd LED Conference dealt with the aging aspects of LEDs. In Budapest, the Organising Committee has been established for the 5th Colour Specialists International Conference to be held in 2012 at Óbuda University.



'The Birth of the Country of Colours from the four Primary Colours'. Mobile shown at the exhibition organised on the 10th anniversary of the Interdisciplinary Section:

*A the discs of the mobile are in standstill;
B the discs of the mobile start rotating;
C the discs of the mobile are rotating.*

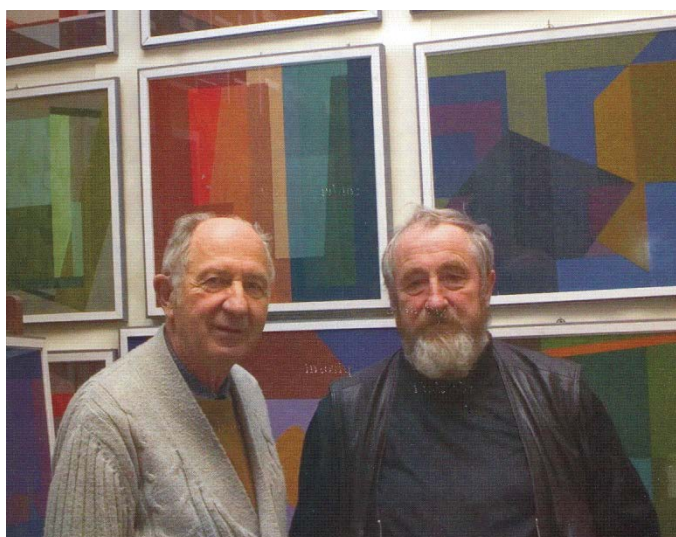
Color Harmony'. Also there was an edition of a 300-page book *Colour Preference Relations*, written by Árpád Magyar and Antal Nemcsics containing numerous colour pictures and diagrams. The book deals with colour harmony, and with biological and psychological effects of colour. Its outstanding feature is presentation of results of experiments conducted in Antarctica on the biological interrelationships of colour.

Committee members with architecture and fine art qualifications have conducted widespread and significant environmental design activities, involving public buildings, town centres and interior spaces with different functions. The most important is the reconstruction of historic monuments in Pápa, a small town with great cultural traditions. The reconstruction, also involving colour design of the buildings, is being implemented according to the plans of Gábor Winkler. From among the beautiful Baroque style buildings there are some important highlights: the monumental St. Stephen Parish Church and behind it the Esterházy residence with its wonderful Baroque style interiors, then, not far away, the oldest Central European blue dyeing workshop.

The Committee has also played a significant role in the life of the Fine Arts. Further exhibitions have been organised by László Miskei, member of the Committee Presidium, and vice-chairman of the Hungarian Fine Arts Association, dealing with the expressive force of colours.



*Part of a street with colour design in the town of Pápa.
In the background is St. Stephen Parish Church.*



*Antal Nemcsics and Árpád Magyar, co-authors of
'Colour Preference Relations'*

Members of the Committee have given lectures at the Hungarian Academy of Sciences and at different public institutions. The most important were those about colour design projects of the city of Szeged, the brain processes induced by colour perception, and the role of the Coloroid system in visual education. Two sites have conducted research classified as outstanding even from the standpoint of CIE. At the Budapest Polytechnical University the research was directed to the visual qualification procedures of fluorescent light sources and the results have been utilised in industry. The Pannon University in Veszprém has conducted research on the aging of LED light sources, on colour matching functions and on re-definition of colour rendering index (CRI). The youngest member of our Committee has earned a PhD by the study 'Characterisation of the colour quality of modern light sources with newly developed colour matching models'.

In the online edition of the journal *Color Research and Application* the latest part of the monumental study by Antal Nemcsics has been published: 'Experimental Determination of Laws of Color Harmony. Part 6: Numerical Index System of



日本色彩学会

THE COLOR SCIENCE ASSOCIATION OF JAPAN

The 42nd Annual Meeting of CSAJ was held 14–15 May at Chiba University. More than 300 participants attended from various fields of colour research and applications, and 48 oral and 28 poster papers were presented. Two months earlier, on March 11, north-eastern Japan had been hit by a huge earthquake and had suffered great damage. We decided, however, to keep on doing our usual activities, believing that these contribute to the recovery from the earthquake. The meeting place, Chiba University, has a long history of education and research activities on colour. During the meeting, several laboratory tours were organised.

A special lecture was presented by Prof Hiroyuki Kobayashi, who was winner of the Photographic Education Leadership Award of the United Nations NGO

International Photographic Council in 2004. He gave a fascinating talk on how colour and texture affect image quality. Through a long series of experiments he examined the characteristics of noise that professional photographers add to improve image quality, and found two noteworthy characteristics:



Prof Hiroyuki Kobayashi

The 15th CSAJ Award was made to Prof Asao Komachiya (Honorary Member of CSAJ). The 4th CSAJ Best Paper Award went to Yoshikawa Hironobu, Munakata Akihiro, Takata Sadaki and Yaguchi Hirohisa for 'Skin Color Change of Japanese Female in the 1990s', *J. Color Science Assoc. Japan* 34(2):120-130, 2010. In this study the skin colour of the upper cheek, lower cheek and neck of approximately 800 Japanese females was measured in both 1991 and 2001, using



1) The noise is greater in the mid-tones, but decreases to nearly zero in the highlight and shadow areas; and 2) Noise histograms are symmetric-shaped in the mid-tones, while in highlights they are skewed toward shadow and vice-versa. This conforms to the long-established practice of professional photographers, who add noise to images so that it looks like the grain of gelatine silver prints.



Prof Asao Komachiya, winner of the 15th CSAJ Award.

the same colorimeter, and was analysed by measurement year and age group on Munsell H,V,C attributes. The results showed that the facial skin colour became lighter, more yellowish, and less saturated over the 10-year period. The colour change in the 30s age group was largest. It is postulated that these changes in skin colour were due to the decrease of tanning exposure arising from increased consciousness of the need for protection against UV radiation.

The 15th CSAJ Research Encouraging Award was given to Hitomi Shimakura (Joshi University of Art and Design) for 'Opponent-colour characteristics of chromatic after-effects by long-term adaptation in a higher integrating information process', *J. Color Science Assoc. Japan* 33(1):14-25, 2009. The 2011 CSAJ Presentation Encouraging Prize was jointly awarded to Chihori Kunito (Waseda University) and Tomomi Ogura (Kyushu University).



Laboratory tours at Chiba University.

Local Branches and Study Groups

CSAJ has three local branches, in Kanto, Tokai and Kansai, and eleven study groups: Color Design, Environmental Color, Illusion, Teaching Materials for Color Education, Personal Color, Colorimetry, Color Vision, Color in Image, Whiteness, Environmental Color Design for Daily Living and Fundamentals of Visual Information. Each branch or study group works actively and organises small meetings and workshops throughout the year.

The CSAJ website was relaunched at: www.color-science.jp. We have also launched a new website for the AIC2015 Midterm Meeting at: www.aic2015.org.



The Korea Society of Color Studies (KSCS) organised diverse

activities in 2011, held in spring and fall, including seminars, academic conferences and the Korea Color Awards. The hottest issue for KSCS in 2011 was selecting the International Convention Centre in Jeju as venue for the 13th AIC Congress to be held in 2017, with the theme of 'Color and Health'.

Spring Seminar and Academic Conference

'Color Science' and 'Color Language' were dealt with in depth for the Spring Seminar. The Spring Academic conference was held at the Ramada Plaza in Jeju on May 25–26. The theme of 'Color and Light' was explored through workshop and academic thesis presentation. Various lectures were given including RGB LED Lighting Spectrum, Broadcast Image Color, Color Sensitivity and the primary subject of 'The core issue and prospect of LED fusion technology.'

Fall Academic Conference and International Exhibition 2011

The fall academic conference was held in October with the theme of 'Color & Emotion'. The President of AIC, Berit Bergstrom, appeared in a pink jacket for the event's dress code and launched the conference with her speech 'The Colors in Scandinavian Design'. Overseas participants from Japan, Taiwan, Thailand, Hong Kong, and Egypt gave talks.



The International Invitational Exhibition was also held during the conference, with the theme of 'Re-Color'. Artists from 14 countries participated in the exhibition and 163 artworks were displayed. The artists were from Korea, China, Finland, France, Germany, India, Italy, Japan, Korea, Netherlands, Norway, Serbia, Spain, UK and USA.

Ewha Lecture

A lecture 'Dragon and Tiger' was given at the Ewha Color Design Research Institute, Seoul, in December by Prof Jeong Byeong-Mo of Gyeongju University, who discussed the iconological origins and changes in Korean folk painting. At first, the paintings of the Dragon and Tiger symbolised the authority and dignity of great people like heroes and kings. From the Han Dynasty, as tigers became recognised as a symbol of averting bad luck, it became common to put a dragon-tiger painting on the front gate of a house. In this way paintings of the Dragon and Tiger came to be seen as devil dispellers and talismans.

Although the influence from the Ming Dynasty's dragon-and-tiger paintings is still widely felt, their basics go back to the painter monk Much'i. This style of dragon-and-tiger painting in the 16th century became popular after the Japanese invasion into Joseon in the Imjin period. It remained influential up until 19th century and was used, like Much 'i's, not only to symbolise authority, but also as New Year decorations. They represent blessings and avoiding bad luck, thus five blessing dragons would bring and three catastrophe tigers would dispel. Subsequently their meaning has been transformed into images full of satire, because within those paintings are contained the desire of ordinary people for an equal world by lowering the authority of the tigers and the dragons.



9th Korea Color Awards

The Korea Color Awards have been hosted annually by KSCS since 2003 and the 9th event was held in 2011. The aim of this award is to encourage and develop colour industry through giving prizes to excellent colour design projects. This year 18 projects were awarded. 『Hyundai Banpo Hillstate』 of Hyundai Engineer and Construction won the first prize for its Urban•Residential Environment field project. 『Color Galaxy』 of Cheil Industries won the second prize for its Visual•Image•Information Media field project. Prizes were also won by 『Kia Morning』 of Kia Motors, and Hanhwa Galleria Fore for the underground parking lot 『Grove Story』 which was undertaken by Hanhwa Construction and the Ewha Color Design Research Institute (ECDRI). Young Nam branch of KSCS actively conducted seminars with specialists from each field including Color Theory and Practices.



Award-winning designs in the Korea Color Awards:
(left) Hyundai Hillstate; (right) Color Galaxy.



AMEXINC, founded in May 2005, is the Mexican organisation that promotes colour in interdisciplinary researches, exchanging expertise and applications and contributing cultural diffusion about Mexican colour use. Actually AMEXINC includes more than 40 professionals of different specialties: psychologists, physicists, graphic designers, home designers, architects, and teachers. The organisation is not exclusive to academics, but is open to all colour-passionate professionals who want to learn more about colour or to share experiences and knowledge. AMEXINC was accepted as an AIC member in 2007.

Every year AMEXINC celebrates its anniversary in May. In 2011 the Instituto Nacional de Astrofísica, Óptica y Electrónica (National Astrophysics, Optics, Electronic Institute) hosted the celebration. In that reunion interesting talks by Ignacio del Río and Georgina Ortiz were offered to postgraduate students and AMEXINC members. Also in that meeting a new Executive Board was elected for the period 2011–2014. The new president is Carlos I Aguirre, the new vice-president is Alfonso de Lucas and the new secretary is Angela Alba, while the treasurer's position is vacant. To this Executive Board new members were added to extend the action of AMEXINC to the states. So the representatives are for Mexico state, Chihuahua, Jalisco and Guanajuato (Mexico is formed with 32 states).

AMEXINC offered a course to obtain the Diploma in Colour Studies. The name of this course was 'The Vision of Colour' offered by Jazmin Carranza in May 2011. The experience obtained with this academic exercise is helping us to plan the courses that AMEXINC will offer in 2013.

The main efforts in 2011 have been focused on the organisation of two great meetings: the 2nd Mexican Color Meeting to be realised in October 24–27th 2012 in Mexico City and the 2014 AIC Interim Meeting in Oaxaca City (see page 42). Everybody is invited to those great events.

The most important communication medium of AMEXINC is its web site. Our ambition is that it will become the main web site for colour in the Spanish language. In 2012 the web site will be relaunched and new interesting sections can be found. Spanish speaking people can also follow our activities in Facebook under the tag AMEXINC. Because of some problems with our former web hosting, we had to take another web address: www.amexinc.mx

Colour and Product Design

Our world requires objects and spaces that go beyond merely utilitarian. There is a need in our ordinary lives of having objects with extraordinary, aesthetic, provocative, genuine, proposals with new technologies, new materials, and new mixtures of techniques. To meet these needs, designers (graphic, industrial, textile, etc.) constantly generate projects.

Products are usually designed for a globalised world, that is, many of the objects are created without taking into account the particularities of the cultures of each region and become objects for standard use. This is understandable in the context of the economics of production and marketing.

Many Mexicans not only want quality products that are aesthetic and functional, but also want to surround themselves with things that reinforce our identity. It is similar to the sociological function of the cinema, where people want to see on the screen stories of quality with which they can identify. While Mexico has a great chromatic cultural wealth, which distinguishes us in the world, this cultural capital is not spread into other areas of design. So it does not take advantage of heritage in the use of popular colour to generate 'products with Mexican identity', designed for domestic consumption. The challenge is to generate designs that are neither kitsch nor the mere transfer of folk elements without styling.

We believe that the addition of talent and creativity in an interdisciplinary forum will give rise to a use of colour with greater projection and more prospects. Thus an exchange of ideas and techniques between experts in different disciplines allows us to generate conceptually more complete, more interesting projects that will motivate the exploration of other issues, with other materials, and to make use of the richness of tradition and the potential of contemporary design ideas.



Huichol handcraft art in form of a jaguar. Decorated piece with little colourful elements.



The COSMOVITRAL, a great greenhouse in Toluca City, decorated with beautiful stained glasses.

Kleur. & visie



HET NEDERLANDS PLATFORM VOOR KLEUR

We celebrated our 65th anniversary on 14 October 2011. It justified not only a toast, but also a Colour Conference with special guests who clarified the past, the present, as well as the future. In his lecture Dr Rob van Lier touched on the interaction between colour and shape by filling in our visual reality. Hanneke Kamphuis and Hedwig van Onna spoke

about their encounters and experiences during their research in composing *Colour Hunting*, a book about colour and trends in commerce, applying concepts of colour in relation to well-being. Dr Wil Uitgeest, psychologist and artist and a wonderful narrator, absorbed the attention of the Conference and took us on a journey about blue in the arts through the centuries. The outcome of her research is in her recently published book *De Binnenkant van Blauw* ('The Inside of Blue').

On our anniversary also our new house style was introduced. It's clear that the kaleidoscope was a source of inspiration for the designers of Criterium, which has been so kind to grant us this beautiful gift. According to Wikipedia the word kaleidoscope could also, from both figurative and metaphorical points of view, be used for a wide range of issues, opinions and positions. So it should be very appropriate for the colour domain.



In an ambience of industrial inheritance on March 21, the International Day of Colour and Light, designers, students and colour prescribers from many disciplines gathered together to let themselves be inspired and informed about the results of (inter)national research, which can be employed directly in actual practice. Special guests Leonard Oberascher, Maud Hårleman and Hildegard Kathegeler were invited, and a contribution from the Netherlands about interaction (game) design was presented by Julius Huijnk.



Typical Dutch Green at the Zaanse Schans windmill.

Zaans Green is inherently connected with the Zaanse Schans, a typical village of the 17th and 18th centuries North of Amsterdam, characterised by green wooden houses and windmills. The Zaanse wooden house was chromatic green, and the frame of a Zaanse clock-gable-house was matching: Zaans green is not only a colour, but also a logo (type). So what is the genuine Zaans Green? Rob van Maanen carried out historical colour examination concerning these greens, which resulted in a colour fan, showing a correlation with the pigment development. Which conclusion could be drawn out of the confusing colour history, is still subject to debate.

Two editions of our magazine have been published. In the summer edition the questions were asked: What does colour do to you personally? And what's the effect of colour on your exterior and interior and other senses? Apart from reports on the latest colour day and the AIC meeting in Zurich, there were also articles about colour in outdoor places, health effects caused by blue light, and the interaction between colour and light in the arts and sciences. The voluminous end-of-year edition featured: Black and White, Designing Happiness, Colour in the built environment for the visually handicapped, and various other highlights:

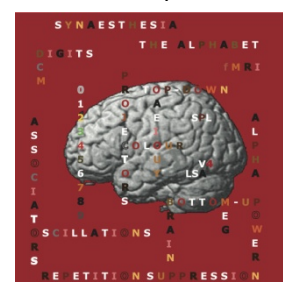


Dr Rolf Bremmer, analysing the colour of bloodstains.

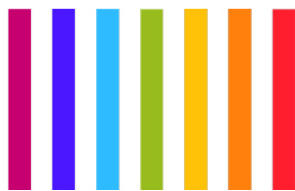
Why is a bruise blue? Rolf Bremmer (PhD research), apart from getting his doctorate, also received the Emerging Forensic Science Award 2011 for his study about non-contact spectroscopic age determination of bloodstains. His research lay on the interface of physics, medicine and forensics.

Learning colours: Donald Hoffman showed how colour, the spice of our visual world, develops early in infancy and uniformly across cultures. A normal child learns the names for hundreds of objects before learning to name a single colour. What is essential for meaning of first words: colour or form?

Neural mechanisms of grapheme-colour synaesthesia: Dr Tessa van Leeuwen graduated with a PhD on brain research involving colour synaesthetes. How can one see what is not there? How is it possible that some people can actually see coloured letters, while others are only able to associate between a letter and a colour?



PORTUGAL



During 2011 the Associação Portuguesa da Cor (APCor) established an institutional relationship with Stichting Kleurenvisie – The Dutch Platform for Colour. Arch Filipa

Santos acts as ‘colour ambassador’ and we expect to be able to provide an exchange of knowledge and ideas for ongoing research through meetings, conferences, seminars, workshops, exhibitions and project implementations.

The 2nd International Seminar of Colour was held at the Universidade Lusíada de Lisboa on 8–9th April to promote discussion of the use of Colour in the Rehabilitation. The



Seminar, organised by Prof Isabel Braz de Oliveira and Prof Ângela Codoñer, in the context of the Centro de Investigação em Território Arquitectura e Design (CITAD) and the International Project ‘Methodology for the elaboration of a Colour Plan in an Urban Environment’, was open to national and international experts with experience in Colour Research and Projects.

Several members of APCor also carried out scientific activities during 2011, including doctoral and post-doctoral programmes, training courses in advanced studies, participation in national and international networks, conferences, workshops or seminars. In December, the philosopher Diana Soeiro became a Doctor with the thesis: ‘Colour as shelter: architecture as care’ under the supervision of Prof Maria Filomena Molder (Faculdade de Ciências Sociais e Humanas – Universidade Nova de Lisboa) and Prof Maria João Durão (Faculdade de Arquitectura – Universidade Técnica de Lisboa).

Prof. Fernando Moreira da Silva, Dr Carla Lobo, Prof Valter Cardim, Prof Maria João Durão, Dr Inês Simões, Dr Cristina Pinheiro, Dr Margarida Gamito and Prof Rui Barreiros Duarte participated in organising and implementing the CIPED – VI International Congress of Design Research. This was held in Lisbon during 10–12th October under the banner ‘An Agenda for Design’ (below), focusing on Design for Communication, Products, Fashion, Ergonomics, Inclusivity and Urbanity.



DISMECOR device and system for measuring perceived colour.

A national patent for the device ‘Dismecor’ was granted by the National Institute of Industrial Property on 14th March. This device was invented by Prof João Pernão during his Master’s degree, under the theme ‘The interpretation of reality as change of colour through light in space and time’, and further developed in his PhD research ‘Colour as form of space defined in time: aesthetic and methodological principles for the study and application of colour in architecture and arts’. The researcher is a member of CIAUD – the Research Centre for Architecture, Urbanism and Design Faculty of Architecture which includes the UTL Color Laboratory.

When choosing a colour through a catalogue or sample it is often difficult to imagine its appearance on real surfaces. Dismecor predicts colour appearance by generating a physical image of reality for objects and built spaces. It allows us to observe and compare the colours of reality as we perceive them, in a multiplicity of situations in space and over time, directly lit or in shadow, with a little or a lot of luminous intensity. The illuminating device has known characteristics enabling comparison of illuminated colour samples with apparent colour perceived directly from reality. The field of application is research, teaching and practice of colour in architecture, art and design. The data gathered will enable application by industries such as lighting, paints and coatings.

During 2011 a special edition of the magazine *Archinews* was prepared under the scientific coordination of Prof Maria João Durão, with the title: ‘Light and Colour – An Interdisciplinary and Transversal Phenomenon’. It focuses on documentation of the itinerant exhibition of the event Cor, co-organised by Associação Portuguesa da Cor and Ordem dos Arquitectos – Secção Regional Sul. This edition included contributions from many APCor members and students from the first year of IADE – Instituto de Artes Visuais, Design e Marketing.





After 20 successful and active years of the former Slovenian Colourists Association (DKS/SCA), the name of the society was changed in 2011 to Slovenian Society for Colours (SZB/SSC). The former name was closely linked to traditional textile colouration.

However, in the recent years our textile industry was nearly entirely abandoned, as was the case in many European countries. Therefore, professionals involved in the textile industry mainly withdrew from active life in the Slovenian Colourists Association. In addition, the name of our Society seemed inappropriate as it did not cover future directions and functions. To our standing rules we therefore added new fields of activity, such as colour theory, colour philosophy, colour psychology, colour in art and colour technology.



Prof Vojko Pogacar (left) and Dr Boris Sluban (right) were active participants at the AIC meeting in Zurich 2011.

Because nearly half of our members live in Ljubljana and the other half in Maribor, we also started to organise our meetings half way between the two cities to be within easy reach from both. In addition, electronic communication became the main link among the members.



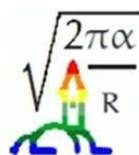
Colourful ice sculpture by artist Janez Jansa in front of the University of Maribor as an analogy of our changes!

The important changes in 2011 were initiated by the necessity to move the society's headquarters out of the building where the main office was shared with the Association of Engineers and Technicians (DIT), which was the original founder of the SCA. The consequences were changes in the standing rules and the society name. The old headquarters were moved to a new location at the University of Maribor, in the Faculty of Mechanical Engineering. After these changes it was inevitable to redesign the old logo into a pure and abstract graphic image of the eye. Young designer Dusan Pogacar successfully utilised all required elements for the new corporate identity!



Vojko Pogacar at the exhibition 'To be or not to be'.

An exhibition by Vojko Pogacar was shown at the Gallery DLUM in Maribor called 'To be or not to be', in the sense of 'to be pixel or not to be pixel'. It was accompanied by a lecture about colours in the paintings by Malevich and Mondrian, who at their time were not aware that they already defined the pixelated form of pictures in the future digital era.



The Slovenian Association of Mathematicians, Physicists and Astronomers published the collected proceedings of their workshops at Lake Bled, using an ingenious coloured icon (left). Articles cover the period 1999–2010.

The artists' collective Colours in Music, in Ljubljana, was very active in 2011. According to their prolix website at www.coloursmusic.org: "White Noise, Green Velvet, Red One, Silver Screen, Blue Potential, Purple Haze, The Sky was Pink ...



Some of the finest moments in the history of electronic dance music are also the most colourful ones. In music no size, shape or colour is inappropriate. For each of our events we pick up a shade and develop a whole experience around it to emphasize the symbolic world of particular colour, thus stimulating sensations. Colours, shapes and sounds are the most influential therapies for human enhancement and a great tool to unfold the greater you. We do this in a particular way, through the intimate clubbing as we see, hear and experience it. You just have to hear, see and enjoy it as colours are connecting everything together based on nature, love, friends, socializing, creativity, spirituality, laugh and a healthy pinch of pleasant madness."





During 2011 our Committee has already started arrangements for our next National Congress to be held in June 2013 at the Technical University of Valencia (Spain). In 2011 some members of our Committee attended the midterm AIC 2011 meeting in Zurich, and other scientific colour meetings in Rome, La Rochelle (France), Sun City (South Africa), etc.

On 13–14th October, the Colour and Vision Group of the University of Alicante hosted the first BYK-Gardner Iberian Automotive Meeting, chaired by Dr Francisco Martínez-Verdú. This had a similar structure to previous meetings in Europe (2010), USA (2011) and Asia (2011) organised by the multinational company BYK-Gardner, a leading manufacturer of chemical additives and colour instruments. Several hot topics were covered:

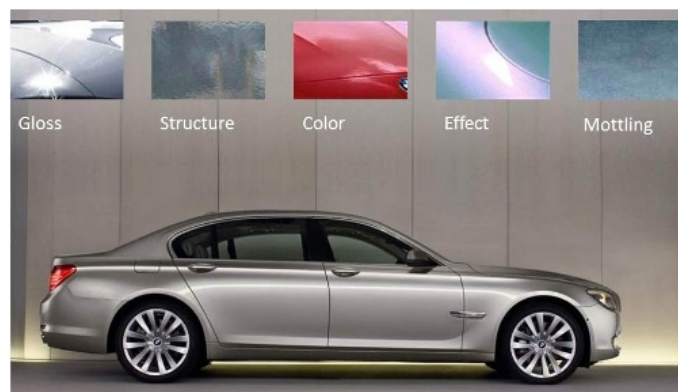
- New instrumentation and psychophysical procedures for the characterisation of visual appearance and harmony;
- New special-effect pigments;
- Colour and texture formulation and matching;
- New additives for improving automotive coating processes;
- Challenges of visual harmony control in production lines;
- Current DIN/ASTM standards and future challenges in special-effect pigments for the automotive sector;
- New materials and process technologies;
- Efficient management of colour and appearance control, etc.



Delegates at 1st BYK-Gardner Iberian Automotive Meeting

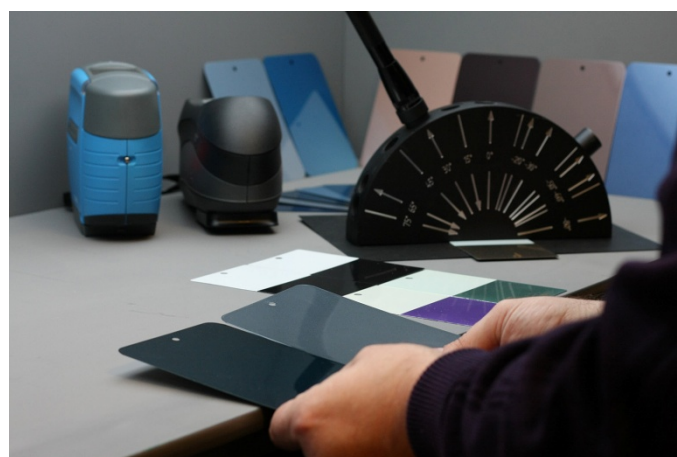
The attendance at this meeting for the automotive sector and the main colour research groups in Spain was very successful: 85 people, of whom 70 were from Spanish and Portuguese companies, mainly car manufacturers and their suppliers of coatings and plastic materials. Among speakers in this meeting can be mentioned Thomas Dauser, leader of several workgroups dealing with colour within Volkswagen, and also leader of the colorimetric workgroup within the Association of German Automobile Producers. All presentations can be downloaded from the meeting website:

web.csidiomas.ua.es/congresos/iberianautomotive/index.html



Five appearance attributes of automotive paint.

Various researchers from our Committee have continued to serve on CIE Technical Committees, in particular CIE TC 1-57 (Standards in Colorimetry), CIE TC 1-55 (Uniform Colour Space for Industrial Colour Difference Evaluation), CIE TC1-71 (Tristimulus Integration) and CIE TC8-11 (CIECAM02 Mathematics). Moreover, several members of our Committee attended the final meetings of the CREATE (Colour Research for European Advanced Technology Employment) scientific network during 2011 (www.create.uwe.ac.uk).



Gonio-apparent panels in a diffuse lighting booth with colour measurement devices: multi-gonio-spectrophotometers BYK-mac and X-Rite MA98, and the gonio-vision-box.

The same group in Alicante published results (*Applied Optics* 50(27):5271) of research into the chromatic variability of new metallic and pearlescent materials. Samples were analysed from a database of 91 samples measured by a multi-gonio-spectrophotometer. The study demonstrated the existence of chromatic perceptions beyond the normal colour solid associated with these materials, independent of light source.

Finally, we would like to mention the participation of teachers from the University of Granada, together with the Universities of Saint Étienne (France), Joensuu (Finland), and Gjøvik (Norway), in the European Erasmus-Mundus Master CIMET programme 'Colour in Informatics and Media Technology' (www.master-erasmusmundus-color.eu). For additional and updated information on the activities of our Committee you are kindly invited to visit: <http://sedoptica.cfm.ac.csic.es/color/color.html>





knowledge and experience within the field of colour; and 3) Be a natural centre for colour and colour research.

In 2011 we celebrated the International Colour Day on March 21st with a spectacular show! Few things affect us as much as colour. It is everywhere, and involves everyone. 'Everybody likes colour.' Colour appeals to our emotions and affects our senses! After this winter with a lot of snow and everything in white, black and grey we needed a more colourful world. Under the passionate leadership of Bengt Ahlin we had a joyful evening with a lot of experiments!



Images from Members' Meeting in January 'White Lies'.

In January we visited 'Medelhavsmuseet', which houses Sweden's most important archaeological collections of ancient and historical relics from the Mediterranean countries. This time we had a guided tour through the exhibition named 'White Lies'. This was a unique opportunity to see the ancient colours through new eyes. The exhibition displays colourful reconstructions in strong blue, red and yellow hues. Through new technologies, researchers have reconstructed the ancient colour glory. Ancient statues in bleached white marble were long regarded as pillars of the West's cultural identity which showed its superiority. In fact all ancient sculptures were very colourful, a fact long known by science. Despite this, leading art critics and museums continue to convey a false impression of the white antiquity to the ordinary museum visitor.

In May we visited the big international colour event SEE! COLOUR! in Dala-Järna, south of Stockholm. During the period from 15th May to 2nd October 2011 it was the place for unique events with four exhibitions about colour: James Turrell is internationally famous with exhibitions at many leading museums and permanent installations in 26 countries. He has explored how light and colour influence our perception, and has for SEE! COLOUR! designed a Skyspace, the first in Scandinavia, which has become the world's northern Skyspace. In addition to the work of Turrell this exhibition also included many colour experiments on Goethe's colour theory, with works from the artist Hilma af Klint and Rudolf Steiner.

In September we had the opportunity to visit the home and studios of the Swedish painter, textile artist and sculptor Olle Nyman. He wanted to bring art and architecture to interact

and used a colour gamut with excess tones. Characteristic were his sculptures made of stone pieces, pottery shards, and broken (crushed) pieces of old porcelain merged with the cement, many of them created in the sculpture workshop.



The home of Olle Nyman, and his piece Arlecchino (1970) in porcelain, glass, stone and concrete.

In October we listened to a presentation 'With the colour in the Visual Arts'. Does it matter whether a painting is red or blue? Yes it does. It often determines the first impression of the image. The spatial motif has always been given greater weight in the Visual Arts. Why then do so many artists work with colour expression? Why do we rarely talk about the significance of different colours in pictures? We made an exciting journey on how visual artists have used colours in composition, symbolic, not least to create emotions.

The year's last event in December was the annual meeting. After the annual reports we always listen to a colour talk, which this year was by Hanna Werning. She works as an independent designer across disciplines such as communication design, product design, visual arts and illustration, self-initiated and commissioned work. Since 2004, she has been running her own company Spring Street Studio in Stockholm. The name comes from her time living in London where she was educated as a graphic designer at Central Saint Martins College of Art & Design. Hanna has a fascination for patterns and colours and has been designing prints, wallpapers, textiles and porcelain for Boråstapeter, Rörstrand, IKEA, Sagaform, Eastpak, Anna Sui, and the House of Dagmar.



Annual meeting in December – Hanna Werning design

You are welcome to visit our Colorspot www.colorsport.org We are always keen to get more visitors. Colorspot is a hub for everyone interested in the progression of colour use, colour news, opinion and concepts. It is also intended as a meeting place where users can share discussion, penetrate topics, analyse concepts and interact with one another.



In 2011 most of the board members of pro/colore were fully engaged in organising the AIC 2011 Midterm Meeting on the 'Interaction of Colour & Light in the Arts and Sciences', held at Zurich University of the Arts (ZHdK). The pre-registration of around 300 persons – double what had been expected – required a larger venue, which was accommodated by renting a large tent. Thanks to the sponsors and good organisation the event was a complete success, which also ensured the reimbursement of the pre-financing provided by pro/colore. For further details see the separate report on AIC 2011 on page 9.

During the year pro/colore organised a varied programme of events, which were enthusiastically attended and appreciated by many members. The year began with a vacant presidency due to the sudden death of Susanna A. Bösch on 23rd December 2010. We are grateful to former president Ernesto Bergantini, who was willing to resume the position *ad interim*.



On 25th May the General Assembly took place at the Schweizer Baumuster-Centrale (Swiss Building Centre) in Zurich. Thirty-four voting members confirmed the re-election of president Ernesto Bergantini, and three board members Daniela Späth, David Hedinger and Ralf Studer were newly elected. In the special presentation 'Conversation with Materials' Werner Rüegger presented SBCZ's collection and new location at Weberstrasse 4. Completed in 1913 by architects Hirsbrunner & Schäfer, the impressive building once housed a blouse factory. The red brick construction recalls the style of turn-of-the-century trading buildings in Hamburg. Open, spacious floor areas and pleasant lighting offer an ideal environment to show the rich collection of carefully selected building materials.



On 5th July pro/colore's event was a visit to the marvellous exhibit 'St. Gall – The Story of Lace' at the Textile Museum in St. Gallen. The show provided a delightful journey in a sensuous and poetic experience through five centuries of precious lace and embroidery. The tour was followed by a reception and informal discussion in the newly designed museum lounge.

On 2nd September pro/colore's scheduled events included a tour of the backstage area and studios of Swiss Television SF. Including watching preparations and viewing of the evening news live, the event participants learned a lot about lighting and television technology, especially the way in which the otherwise colourless spaces were only brought to life through the lighting. The tour also provided the opportunity to experience an editor at work in a recording studio. After a snack attendees were invited to participate in the production and transmission of the quiz show 'Trader'.



On 7th September the fourth event took members on a bus tour across the border to visit the Kremer Pigments firm in the nearby Bavarian region of Allgäu. Dr Georg Kremer and his wife established Kremer Pigmente in 1977. Today there are more than thirty employees working at the company, which has become an international leader in the field of pigments used in cultural heritage preservation and in the creation and restoration of fine art paintings. Always searching for the true pigments and media of the Old Masters, Dr Kremer gave an exciting talk on the history of colour. After lunch members learned about the manufacturing process of pigments according to old formulas and traditional techniques on a tour through the factory. The group left with many colourful impressions and was especially fascinated by the wonderful location in an old mill in Aichstetten.



On 3rd November the pro/colore corporate member Caparol AG invited us to a talk on colour measurement, entitled 'Color Your World'. The firm also presented 'Spektrum 4.0', a visualisation programme developed for producing customers' own colour designs. During the reception a lively discussion took place about the programme's applications. In the company workshops participants were encouraged to make their own virtual colour designs and view an exhibit on surface structures and treatment.





中華色彩學會

Color Association of Taiwan

In its 10th year, the Color Association of Taiwan (CAT) conducted its annual meeting and three scientific congresses. Additionally, we continued preparations for the AIC 2012 Interim Meeting 'In Color We Live – Color and Environment', to be held in September in Taipei, when experts from more than 30 countries worldwide are expected.

The Annual CAT Members Meeting was held on 18th March at the Chinese Culture University. Dr Phil Green, London College of Communication, spoke on 'Education in cross-media colour reproduction', and Prof Roy Berns, Rochester Institute of Technology, introduced the 'RIT Munsell Color Science Laboratory – An International Resource for Color and Imaging Science Research, Education and Outreach'.



On 23–24 October CAT hosted an international conference on 'Color Trends and Environmental Colors' with two experts from Germany. Prof Axel Venn introduced the upcoming colour trends for 2012, and conducted a colour workshop with students of the Chinese Culture University on individual colour perception and associations.

Franz Eilerts, RAL colour company, gave an overview of the RAL colour system.



Workshop on colour associations at Chinese Culture University.



The Congress 'Exploring City Colours in Theory and Practice'.

The 12th International Scientific Color Symposium on Color Design and Application, was held on 10–11th December. The next day, Prof Sung Jian-Ming, of Hangzhou University of Fine Arts, China, spoke on 'How to make Cities Greener' and 'Color Geography'.



The congress 'Exploring City Colors in Theory and Practice' was conducted on 12th December. Prof José Caivano, University of Buenos Aires, Argentina, spoke on the 'History of Color Order Systems Developed in Relation to Architecture'. The congress also included contributions from international renowned colour experts from Japan, Great Britain, and Germany.



Topics were concerned with colour differences, observer categories, and perceptually uniform colour spaces as well as scientific approaches to colour environments.



Happy gathering of participants at AIC 2011 in Zurich.

In June 2011, a delegation from Taiwan attended the AIC 2011 Congress in Zurich. On this occasion, the AIC banner was ceremonially handed over by the Swiss AIC representative Verena M Schindler to CAT president Prof Tien-Rein Lee.



CAT is now looking forward to hosting the 2012 AIC Interim Meeting in Taipei, 22–25 September. Colour experts from 34 countries are expected to attend 12 sessions, with more than 60 selected speakers, pre-conference lectures, workshops, a poster exhibition, a colour market, and an interesting visitor sight-seeing programme. See page 40 for more information.



In 2011 the Colour Group of Thailand (CGT) continued the project of setting up the colour gallery in the Museum of Imaging Technology at Chulalongkorn

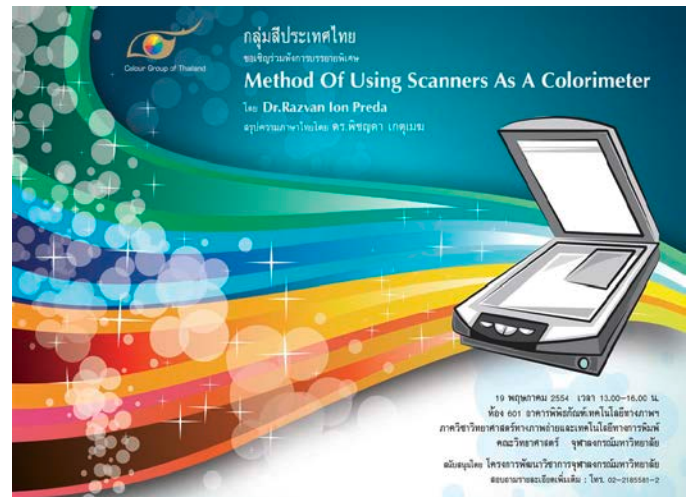
University, Bangkok. Our showcase includes the steps leading up from the ground level in front of the building, decorated with printed waterproof material related to the technology. Its information presents the milestones of colour history. In addition, on each floor, there are panels exhibited about Thai colour names used in the KHON Masks of Ramayana. We have regular visits from Thai residents and foreign visitors from many countries.



(left) Steps leading up to the Museum of Imaging Technology;
(right) Panel exhibition of Thai colour names.

A workshop on 'Method of Using Scanners as a Colorimeter' was organised by CGT on 19th May 2011. This featured the alpha release of the Trichromatic Colour Analyser (TCA), presented to a selected audience. TCA is the first software system created in the Dept of Imaging and Printing Technology and is also the first scientific software package ever released by Chulalongkorn University. It was developed in the newly-created Colour Research and Multimedia Laboratory, led by Dr Pichayada Katemake. Developed initially for research in analysis and identification of traditional Thai Colours, the system was later expanded for general use. It has been tested in other applications such as determining the colour of ink written on paper (for forensic laboratories) and optimising the print pressure in offset printing of half-tones on coated and uncoated substrates.

TCA can control an unlimited number of scanners that have the TWAIN driver installed on the host computer. The tools provided in the software package offer the possibility to set up scanners as colorimeters. The greatest advantage of TCA is the range of areas that can be measured, from the smallest area of 0.1 cm² to the largest of 100 cm². This enables colour records to be built containing the most representative colours extracted from the analysed samples and matched with names from colour dictionaries. TCA uses digitised values for Munsell, Resene, Crayola and NBS-ISCC colour dictionaries that fit within the sRGB colour space.



Poster for workshop on scanner colorimetry.

In August 2011, at the International Conference on Imaging and Printing Technology, results were presented of research for identifying and quantitatively describing traditional Thai colours, as part of an effort to create a 'Thai Colour Name Dictionary'. Thai colour names used for mural paintings and Khon masks are not well known, uncommonly used, and some are forgotten. They are normally known today only by a few artists who inherited the knowledge to paint them from their elders. However, the artists cannot quantitatively describe the characteristics of these colours, and this is a major impediment in colour identification and preservation studies necessary for future restoration of temples and artefacts.



Presentation by Dr Pichayada Katemake on the identification and preservation of colours in Thai mural paintings.

Elsewhere in Thailand, colour was in the news in 2011 with the political demonstrations and confrontations between the Red-Shirts and the Yellow-Shirts. The power of colour to symbolise feelings, emotions and allegiances is remarkable.





The ISCC is the principal professional society in the field of colour in the United States. The Council was founded in 1931 with the goal of advancing the knowledge of colour as it relates to art, science and industry. There are currently 9 sustaining members, 17 member-bodies, and approximately 200 individual members.

Publications

The ISCC publishes a newsletter six times each year. The ISCC News has recently been undergoing some very positive changes: There are now three op-ed columns: *Hue Angles* (extrapolations from colour themes by ISCC members, edited by Michael Brill), Mark Fairchild's *Metameric Blacks* (answers to elementary colour questions), and Parker Plaisted's *Color-Image.com* (focusing on ICC colour management).

The ISCC offers for sale the following technical reports: *Color and Light* by Fred W Billmeyer Jr and Harry K Hammond III; *Demystifying Color* by Robert Chung, *Guide to Material Standards and Their Use in Color Measurement*, and a Commemorative CD and pin from the ISCC's 75th Anniversary.

The ISCC website at www.iscc.org contains a free-access virtual library, which is new and growing. Part of this library, Historical Translations, contains Lambert's colour pyramid, König and Dieterici's article on fundamental sensations, Ostwald's researches in colour science, a treatise on pastel painting, Luther's work on colour-stimulus metrics, Runge's colour sphere, and Schrödinger's theory of colours of greatest lightness. Rolf Kuehni has been instrumental in translating and/or editing most of the works in this site. Also included is I.H. Godlove's full-length unpublished book, *The Earliest People and their Colors*.

Meetings

The ISCC held a successful joint symposium with AATCC in Charlotte NC on 28–29 April, 2011. The theme was 'The Colors of Multi-Colored Things: Multi-Media, Multi-Materials Color Control'. Presentations ranged from industrial colour control, to lighting technology, to colour digital proofing.

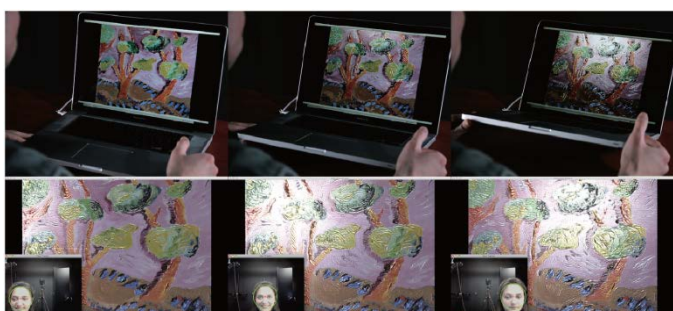


Image sequence showing a painting with textured surface being displayed on the tangiBook (James Ferwerda).

A highlight was James Ferwerda's keynote speech, 'Envisioning the material world', which pointed to a new technology – tangible displays – that unite a camera, a display, and software. The light rendering a virtual scene is transduced from the camera image of lights in the viewer's environment. The illuminated scene is then displayed on a monitor. By moving and turning the 'tangiBook' display to change its exposure to the light, a viewer can control the virtual light on the scene and see the objects literally in a different light. Tilting the screen or moving in front of it produces realistic changes in surface lighting and material appearance.



Members at the ISCC Annual Meeting in San Jose.

The ISCC Annual Meeting was held on 12 Nov 2011 in San Jose CA, in conjunction with a one-day ISCC/IS&T/SID Special Topics meeting on 'Revisiting Color Spaces'. Presentations at this event included sRGB – Work in Progress, Adobe RGB: Happy Accidents, Is sRGB Still Relevant, and work on digital HDR techniques. A highlight was Mark Fairchild's paper, 'Is there really such a thing as color space?' He discussed the foundations of unidimensional appearance spaces. Goodbye, Riemann colour spaces. Goodbye, mononumerosis from the single metric ΔE . But the underlying colour science remains...

Awards

At the 2011 Annual Meeting, the ISCC presented a special award to Cynthia Sturke in thanks for her fifteen years of service to the Inter-Society Color Council.

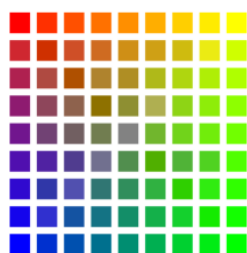


Elections

The 2011 term of Board of Directors elections was held over until early in 2012. Joining the ISCC Board of Directors for the 2011–2014 term are Dr Michael Brill, Dr Ellen Carter, and Dr Romesh Kumar.

Upcoming Events

The ISCC will be holding its Annual Meeting in Manchester NH on 16–17 October, 2012. The meeting will include non-concurrent sessions of all three interest groups, an educational session, and a business and awards luncheon. Additionally, a programme on 'green' colorants and technologies will be featured, along with a tabletop exhibit of equipment and technology. Please refer to our website for a registration form and further information.



The Gruppo del Colore (GdC) is a major Italian organisation that puts into contact people in Italy working in the field of colour. It was established on 1st October 2004, during the Seventh Convention of Colorimetry organised by the Italian Society of Optics and Photonics. Its mailing list now counts more than 400 persons. The annual meeting, the VII National Colour Conference, was held at SAPIENZA University, in Rome, on 15–16 September 2011, with an organising committee led by Fabio Bisegna, Franco Guglielmetti and GdC coordinator Maurizio Rossi.



Delegates at GdC annual meeting, Sapienza University, Rome.

In 2010, the previous conference registered 80 participants and 25 oral presentations, while in 2011 it registered more than 250 participants who delivered 174 papers, 102 oral presentations and 72 posters. The programme ran over two



Renata Pompas, Fabio Bisegna and Maurizio Rossi at the annual meeting.

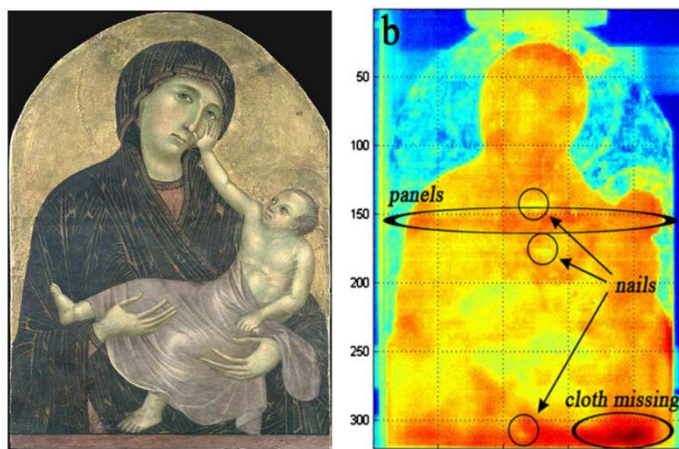
days, with oral presentations over three parallel sessions (a total of 18 sessions), conducted half in Italian and half in English. GdC has collected patronage from 13 national societies and sponsorship from eleven international companies. Contributions in the fields of design and colour in the visual arts and cultural heritage have seen the steepest upsurge of interest.

In 2012 the VIII National Colour Conference will be held in Bologna, and a call for papers and more information can be found on the group website at www.gruppodelcolore.it. The meeting is open to scientists working both in academia and industry, in both Italian or foreign institutions.



Proceedings of the GdC VIII National Colour conference in 2011, published in both Italian and English volumes.

At the conference Ambrosini *et al* from the University of L'Aquila presented an interesting paper 'On the edges of the rainbow and beyond: using colour mapping in multispectral diagnostics of artworks'. They showed how infrared (IR) imaging methods offer several advantages in the field of conservation, and in particular for non-invasive investigation of paintings. According to the spectral band and its interaction with the pigmented materials, different characteristics of the painted layers and the painting structure may be revealed.



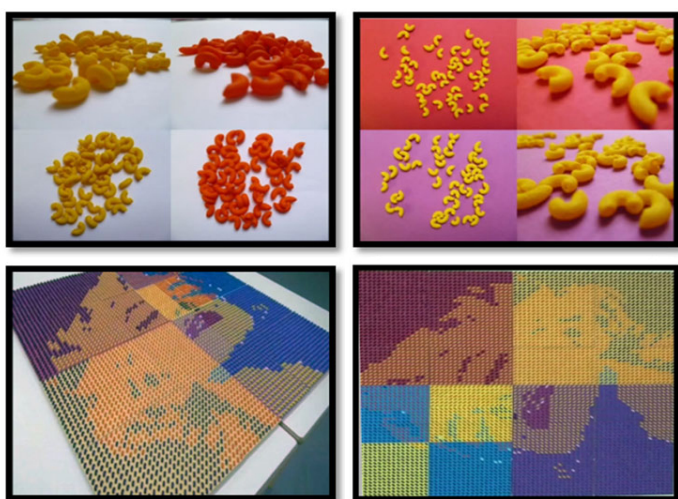
(left) Virgin with Child, Cimabue, 13thC, tempera on panel; (right) infrared thermal images reveal structural anomalies.

Among the various activities of our members, Raimondo Schettini organised on 20–21 April the third Computational Colour Imaging Workshop (CCIW) at the University of Milano-Bicocca, endorsed by the International Association for Pattern Recognition (IAPR). See www.ivl.disco.unimib.it/cciw11/.

Renata Pompas organised the workshop 'Combinaciones de color para proyectos' at the Pontificia Universidad de Chile. Escuela de Diseño, Santiago, and curated the exhibition 'Textile Ri-Design' with the Italian-Russian Association in Milan. Alessandro Rizzi, former coordinator of GdC, has started organising the IS&T conference 'Colour in Graphics Imaging and Vision' (CGIV 2014) to be held in Milan in June 2014. More information can be found at www.imaging.org/.

There was a brief SG meeting at the 2011 AIC Midterm Meeting (Zurich), with 15 SG members and 12 guests, where we discussed ways of making the SG stronger and more active. We have high hopes for educational activities at the AIC 2013 Congress, where in addition to papers and posters related to colour education there will be a special session with live colour demonstrations (like a 'show and tell' for teachers). SG members were very active in 2011, and here follow some examples of their varied activities in colour education.

Students of Alain Trémeau and Éric Dinet, enrolled in the Master Erasmus Mundus CIMET 'Colour in Informatics and Media Technology' (www.master-erasmusmundus-color.eu) presented at Université Jean Monnet, Saint-Étienne, several demonstrations to illustrate visual effects related to colour perception, such as simultaneous contrast, colour constancy, colour memory, watercolour illusion and metamerism.



Colour contrast effects due to colour objects, background, surround, orientation (Credit: Ailin Chen)

Paula Csillag regularly gives courses at the ESPM (Escola Superior de Propaganda e Marketing) in São Paulo (Brazil), among them a Colour Design Course (see page 13). In addition to regular lectures there is a great variety of other student activities, such as visiting exhibitions, chromatic installations, and elaboration of Colour Charts (students working with gouache paint in class).



Demonstration of coloured shadows in the ESPM Colour Design Course.

Some of our SG members even went abroad to teach. Malaysian Mosaics Berhad, a pioneer and currently one of the largest ceramic tile producers in Malaysia, arranged for Nick Harkness (Secretary/Treasurer of the AIC) to spend a week at their plants in Kluang, training key personnel on the application of colour theory for both visual and instrumental colour quality control. The training was part of an integrated programme to attain high colour consistency in the tiles.



Training sessions at Malaysian Mosaics Berhad in Kluang, led by Nick Harkness, with a combination of NCS student exercises and his own.

Renata Pompas (Italian expert in colour and textile design) went to Chile on a mission of consultancy and training. During her workshop at the Pontificia Universidad de Chile, Escuela de Diseño, Santiago, she presented two different planning systems as solutions for the same polychromatic product, composed of multiple colours. The first method maintains the original communications and their aesthetic rules. The second method changes the original communications while maintaining their aesthetic rules.



Renata Pompas presenting planning systems for students at the School of Design in Santiago, Chile.

The AIC Study Group on Colour Education has currently 69 members from 34 countries, but many important institutions and high-level professionals involved in colour education are still not participating. Membership in the Study Group is open to anyone who is interested, and we are continuing a campaign to recruit colour education professionals from around the world. If you are not yet a member, but would like to participate in our work, please email the SG Chair.

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robert.hirschler@yahoo.com
www.aic-colour.org/sgroups.htm





At the meeting of the ECD Study Group at AIC 2011 Zurich 41 new members from nineteen countries were acknowledged:

Ken Smith (Australia); Birgit Schulz (Austria); Paula Csillag, Juliana Harrison Henno (Brazil); Doreen Balabanoff (Canada); Ingrid Calvo (Chile); Pierre Auboiron, Soizic Boucault, Jacqueline Carron, Yves Charnay, France Cler, Jean-Paul Leclercq, Vanessa Lehner, (France); Thomas Kanthak, Gisela Meyer-Hahn (Germany); Razieh Jafari (Iran); Cristina Boeri, Katia Gasparini, MariaPia Peddeferri, Alessandro Premier, Valentina Vezzani, Pietro Zennaro (Italy); Takayuki Kumazawa (Japan); Gyoung-sil Choi (Korea); Barbara Matusiak (Norway); Maria Isabel Braz de Oliveira, Cristina Caramelo Gomes, Veronica Conte, Joaquim Marcelino da Conceição dos Santos (Portugal); Cecilia Häggström, Ulf Klarén, Monica Moro (Sweden); Barbara Diethelm, Bettina Gerhold, Lino Sibillano, Stefanie Wettstein (Switzerland); Piyanan Prasarnrajkit (Thailand); Fiona McLachlan (UK); Demyan Voytovych (Ukraine); Barbara Klinkhammer, Sanford Wurmfeld (USA).

Prof José Luis Caivano, ECD co-chair (1998-2005) and Dr Leonhard Oberascher, ECD chair (1989-1997) and co-chair (1998-2011) were recognised as outstanding members of the ECD study group for their long-term engagement.

A special issue of TEC21, the magazine of the Swiss Association of Engineers and Architects (SIA) (June 2011, Number 23) was published on the occasion of AIC 2011, including



Sanford Wurmfeld: Cyclorama

papers by Justyna Tarajko-Kowalska, Gisela Meyer-Hahn, Monica Kuo and Yen-Ching Tseng, as well as an interview of Verena M Schindler by Katinka Cortes.

Vojko Pogacar and Darko Golob (Slovenia) provided a digitised PDF version of the AIC 2002 Book of Abstracts, now available online on the AIC website under the keyword 'History'.

ECD Discussion and Outlook

Colour and Sustainability, Ecology and Well-being have become serious concerns in today's society. Some points of discussion were:

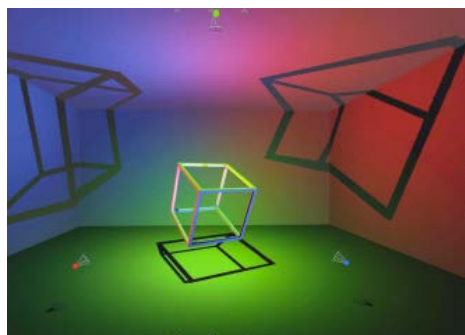
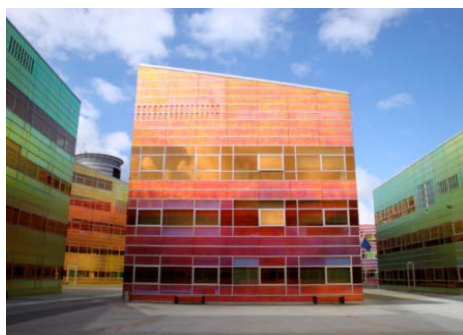
- Karin Fridell Anter (Sweden) and Doreen Balabanoff (Canada) related this topic to colour and health;
- Tatiana Semenova (Russia) raised the question 'How do we avoid visual pollution in urban space?';
- Jean-Luc Capron (Belgium) is concerned about light and green economic lighting policy;
- Piyanan Prasarnrajkit (Thailand) regularly leads workshops on 'What colour is green?';
- Cristina Boeri (Italy) is interested in the chromatic integration of industrial sites in urban planning;
- Leonhard Oberascher (Austria) pointed out Barker's *Ecological Psychology* (1968), Gibson's *The Ecological Approach to Visual Perception* (1979), and Reed's *Encountering the World: Toward Ecological Psychology* (1996) and the ecological attitude of industrial designers;
- María Luisa Musso (Argentina) reminded us that already in the 1990s ecology was a major concern, see 'Earth_Summit 1992' online on the AIC wiki workspace.

Some fundamental questions arose:

- Are there significant differences in past and present approaches to environmental colour design?
- At present are there discernible impacts on colour design for our environment?
- Which current trends will shape our environment and have implications in the future?

In 2012, the year of the 30th anniversary of ECD Study Group, the AIC conference 'In Color We Live: Color and Environment' will provide many good opportunities to share new ideas and experiences and to discuss issues of topical importance in this challenging field of environmental colour design.

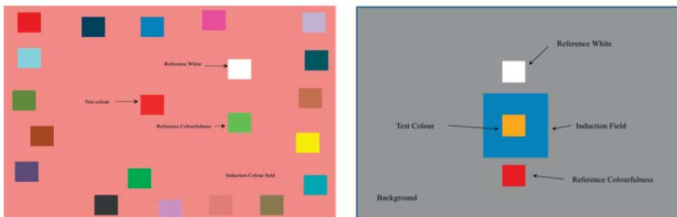
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Fiona McLachlan: Architecture by UN Studio; Ulrich Bachmann et al: Colour-Light-Toy; MariaPia Peddeferri: Interference Colour.

As usual, people working in the field of colour illusions had the occasion to present their contributions at the AIC 2011 meeting in Zurich. The themes of the conference were particularly favourable, as the light-colour interaction is among the richest sources of the so-called illusions. Although contributions in this field were relatively few, they were of great theoretical relevance.

As is well known, we encounter an illusion when the same thing appears dramatically different in different situations. As movement gives strong identity to objects, today many illusions are presented by moving an object into a different context. The concept of context is critical as it concerns everything which is not the target. On the other hand, an old belief, still popular in some cultural circles, is that perception of an object should correspond entirely to its retinal stimulation, and that when this correspondence is broken we have an illusion. Contrast effects are the most common examples of illusions of this kind, as the colour of an area may appear different without change in the stimulation but only as a consequence of the colour induction from other areas (the context). Three papers dealt with this important topic. Wang *et al* in 'Colour contrast revisited' showed that a new spatial arrangement of target and inducing surround can be useful to improve the colour appearance model CIECAM02.

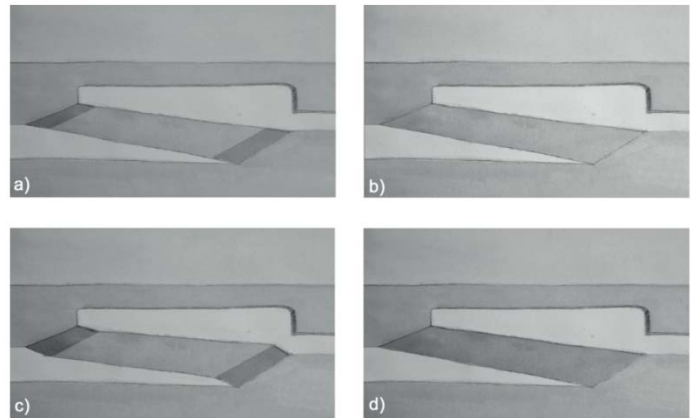


(left) Experimental setup of colour contrast, in which patches close to the border of the pattern are surrounding colours; (right) the conventional 3-field paradigm employed for the same study (from Wang *et al.*, Proc. AIC 2011).

Two other papers considered contrast effects, not on single colours but on colour pairs, whose perceptual difference seems to be affected by the inducing background. Scheller Lichtenauer *et al* in 'Perception of contrast on different backgrounds' studied how differences in lightness between two adjacent grey samples are affected by the lightness of the background. They used the very efficient pair comparison method to evaluate which sample pair showed higher lightness difference when placed on three backgrounds of different lightness. Gorji Kandi and Saedi in 'The effect of background lightness on perceptual color difference' studied a more complex problem, how chromatic differences are affected by background lightness. All samples showed the least colour difference when viewed against the black background, with some difference as a function of hue.

Now I introduce a completely different concept of visual illusion, which has little to do with the cognitive aspects of perception but is essentially focused on its impact on general behaviour. According to modern views perception is not directed at acquiring knowledge about the physical world but at inducing adaptive behaviour as regards to the environment. From this point of view an illusion would be a perception

leading to dangerous behaviours: the criterion here would not be the agreement between the perceived and the physical world, but the congruence of the perception-elicited behaviour with the fitness of the organism in a given environment. A very stimulating paper was presented by Häggström in 'Spatial visibility: Camouflaging functions of recommended colour design solutions for improved accessibility'. She showed that architectural solutions intended to help people to behave properly may sometimes produce unintended but dangerous illusions.



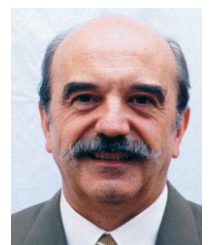
a) Recommended marking of beginning and end; b) uniformly coloured floor and ramp; c) illustration of reshaping effect of constructive shading; and d) alternatively suggested shape-enhancing co-shading (from Häggström, Proc. AIC 2011).

The steps produced by shading the ramp were intended to make conspicuous its boundaries and prevent people from falling accidentally. The result in this case, and in others discussed by the author, proved on the contrary to be self-defeating, as people would also stumble in 'illusory' reliefs.

This kind of illusion is developed in a different field, that of translucency-transparency. Sometimes clear transparency can be appreciated as a value (Hutchings *et al*, 'Translucency perception'; Rhodes *et al*, 'Measuring beer haze and preference') but some people prefer turbid beer and clear fruit juice, so these aspects would presumably not lead to dangerous behaviour. A clear glass door (Jung *et al*, 'Perceived colour in transparent materials and objects') can be extremely dangerous, and therefore illusory, because it might lead to harmful impacts, which would not occur if a translucent veil were used (da Pos and Braghetta, 'Colour constancy through textile veils'). Also camouflage can be dangerous, both in animals and in humans (Duvenhage and Baumbach, 'Using 2D image composition to model and evaluate soldier camouflage in the visible wavelengths'). This way of understanding perceptual illusions seems quite new, but if studied in depth might prove to be very useful for practical purposes.

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AIC STUDY GROUP ON COLOUR PERCEPTION OF THE ELDERLY (CPE)

The purpose of this Study Group is to discuss basic and practical studies on colour perception of the elderly, such as colour appearance, colour discrimination, brightness perception of colours, colour preference and application tools for planning and testing universal colour designs, and to share useful information among the members concerning colour perception of the elderly.

Activities

1. Currently, the SG has 68 members from 16 countries.
2. In AIC 2011 Zurich, we held a meeting of the SG and discussed the research issues and future plans of the group. We decided that it would be desirable to expand the target domain to the colour perception of normal colour vision, colour vision deficiency and low-vision, in addition to the elderly. We are therefore proposing to the AIC Executive Committee to change the name and remit of the SG.
3. We are planning to meet at AIC 2013 in UK and at AIC 2015 in Japan.
4. We are hosting the SG homepage at the following site: www.okajima-lab.ynu.ac.jp/CPESG.
5. SG members have published/presented some relevant papers. For example, a research group (Taka-aki SUZUKI, Katsunori OKAJIMA, and Takashi FUNAI) published a paper entitled 'Optical Simulation of Reduced Retinal Illuminance Caused by Senile Miosis' (*Optical Review*, 19(3), pp.174-181, 2012). They developed a goggle-type simulator using active optical devices, which enables young people and indeed all people with normal vision to experience senile meiosis in any environment in real time, using filters whose transmittance optically simulates true senile meiosis: i.e. the reduction in retinal illuminance as a function of ambient illuminance.



Intelligent goggles to simulate visibility in the elderly for young observers in a real environment in real time.

Another research group (Taka-aki SUZUKI, Minoru SUZUKI, Yasuki YAMAUCHI, Katsunori OKAJIMA) presented a paper 'Development of Simple Color Bipartite Apparatus using Single Light Source with LEDs and Measurement of Individual Color Matching Functions' (*Proc. AIC Midterm Meeting*, Zurich, pp.763-766, 2011). As previewed in the SG report last year, they developed a simple and compact bipartite apparatus for measuring individual CMFs quickly and easily with time-controlled monochromatic LEDs, and showed that the new equipment enables a quick and easy measurement of CMFs. Currently they are trying to measure CMFs of the elderly with this equipment by applying a novel procedure.

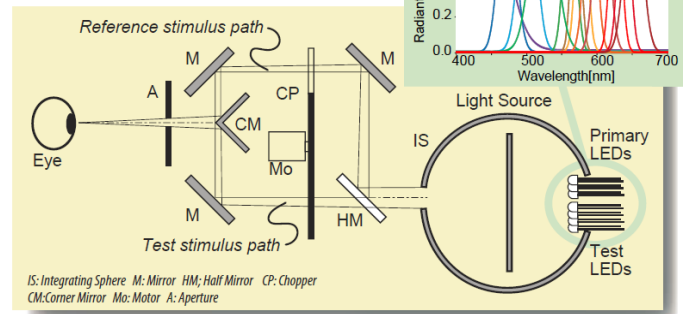
APPARATUS

► Light sources

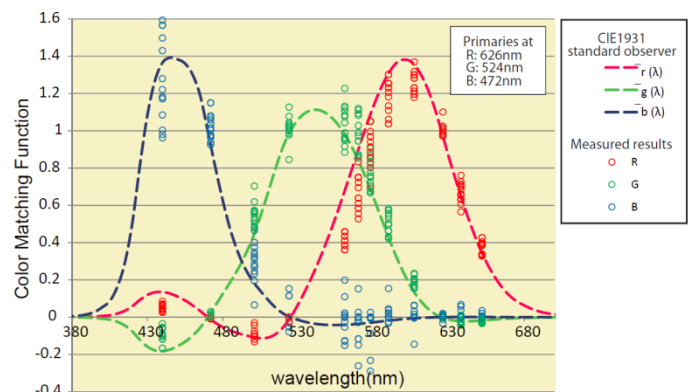
A small integral sphere (6" diameter) with three primaries and twelve reference monochromatic LEDs.
Lighting timing of LEDs were synchronized with opening timing of optical paths.

► Optical system

A beam splitter divided the light into two optical paths.
Each optical path was alternately interrupted by a rotating optical chopper.
Bipartite stimulus was composed of a test and a reference light with a corner mirror.



Experimental apparatus for measurement of individual CMFs in a bipartite field with LED light sources.



Measured individual CMFs: Mean of three trials for each subject.

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Purpose

The purpose of this AIC Study Group on the Language of Colour (LC) is to discuss and share information on studies regarding linguistics, semiotics and cognitive science. Key topics are colour naming, categorisation, colour synaesthesia, and the semantics of colour grammar and syntax.



Meeting of the LC study group at AIC Zurich, 2011.

Activities

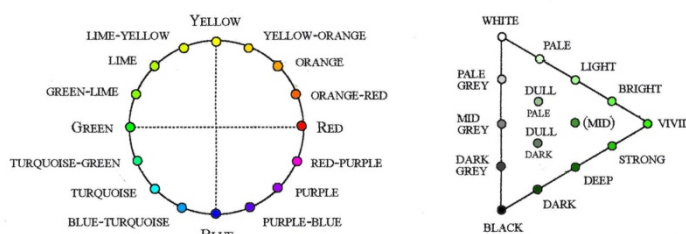
- 1) There are currently 54 members.
- 2) The website (www.aiclc.ac) of the Study Group LC provides a continuous update of bibliographies and materials contributed by members since 2010. This information will be open and provided to all members of the SG.
- 3) 25 members attended the LC study group meeting at the AIC Midterm Meeting in Zurich. Dr Jodi Sandford gave a short presentation on the differentiation between language and linguistics. Language must be understood as a code, which through convention allows the exchange of signals between a speaker and a listener. Linguistics studies the structure of human language and the specificities of different aspects. She advocated the usage-based thesis, one of two guiding principles of cognitive approaches to grammar. An important consequence of adopting this thesis is removal of the distinction between the knowledge of language and the use of language.



Dr Jodi Sandford

Co-Chairman Paul Green-Armytage proposed and presented two ideas for projects aimed at improving international and interdisciplinary communication:

1. Establishment of a basic standard palette of some 25 colours which would be given names in different languages. This idea received little support; it was considered too problematic and ambitious a project for the Study Group.
2. A set of alternative definitions for terms such as 'hue', 'lightness', 'saturation', etc. Contrary to expressed assumptions this would NOT be an attempt to establish a set of 'official' AIC definitions. The intention would be to provide a collection of definitions, as used by workers in different disciplines. So a physicist and an artist, for example, who might both use a word like 'hue' but who would define the word in a different way, could see the alternative definitions and so understand each other better. The intention is to circulate a first set of definitions and then invite contributions so that the collection can grow.



Colour circle with intermediate colours added as reference points between elementary and equal resemblance colours. Reference points in the colour circle are identified by modifying adjectives (Paul Green-Armytage).

Future Plans

A discussion on the Language of Colour will be held during the study group session at the AIC 2012 Midterm Meeting in Taipei, based on papers presented by LC members. Members are encouraged to share and develop opinions.

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COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE
INTERNATIONAL COMMISSION ON ILLUMINATION
INTERNATIONALE BELEUCHTUNGSKOMMISSION

The Terms of Reference of CIE Division 1 are: 'To study visual responses to light and to establish standards of response functions, models and procedures of specification relevant to photometry, colorimetry, colour rendering, visual performance and visual assessment of light and lighting.'

Photometry is the science of measurement of visible light in terms of its perceived brightness to human vision and it plays an important part in, for example, assessing the quality of the living and working environment, lit by either artificial light or natural daylight. Colorimetry is the science of measurement of colour in terms of perceived attributes and it plays an important part in many aspects of industrial process control, imaging systems, signalling systems, etc. The emphasis is on the perceptual aspects of these subjects, leading to a further understanding of how we see what we see.

CIE Division 1 held its annual meeting as part of the 27th Session of the CIE held in Sun City, South Africa, 11–15 July 2011. The Session was an excellent meeting in a unique location. The structure of the week-long Session was such that the mornings were devoted to a technical conference, and the afternoons to CIE business, including individual technical committee meetings as well as division meetings. There was plenty of time for networking to meet old friends, and to make new ones, as well as a social programme with an organised event most evenings.



Exhibition and social space at CIE D1 meeting in Sun City

CIE Division 1 has produced a number of new publications during the last year. CIE S 014-3/E:2011 'Colorimetry – Part 3: CIE Tristimulus Values' is now published as a CIE standard and will become an ISO Standard. 196:2011: 'Guide to Increase Accessibility in Light and Lighting' was written for lighting designers and engineers to take account of the needs of the elderly and people with disabilities. 195:2011: 'Specification of Colour Appearance for Reflective Media and Self-Luminous Display Comparison' considers the application of colour appearance models to hard-copy colour reproduction

systems. 192:2010: 'Practical Daylight Sources for Colorimetry' discusses the state-of-the-art of practical daylight sources for colorimetry. It provides information on lamps and devices used for illumination in the visual evaluation and instrumental measurement of non-fluorescent and fluorescent specimens.

Several new Technical Committees were recommended. TC1-83 'Visual Aspects of Time-Modulated Lighting Systems' will investigate and report on current research on perception of visual artifacts of temporally modulated lighting systems, including flicker and the stroboscopic effect. TC1-84 'Definition of Visual Field for Conspicuity' will define and classify functional visual fields for tasks and develop guidelines for the layout of visual information to increase the visibility of visual signs, displays and markings. TC1-85 will update CIE Pub 15:2004 'Colorimetry' taking into consideration the current CIE/ISO standards on colorimetry and TC1-36 'Fundamental Chromaticity Diagram with Physiologically Significant Axes'. TC1-86 'Models of Colour Emotion and Harmony' will recommend models based on existing psychophysical data for colour design. TC1-87 'New Aspects of Colour Rendering' will follow on from TC1-69 'Colour Rendition by White Light Sources' and will investigate methods of assessing the colour rendering capabilities of all types of white light sources, with a view to recommending a new assessment index or indices.



CIE Session logo on banquet table

Reporters were appointed for the following subjects: gloss perception and measurement – to investigate if improved measurement methods could achieve a better correlation between gloss perception and measurement; variability in colour-matching functions – to document available data that describe the variation in colour matching functions; enhancement of images for colour defective observers – to review the literature for enhancing images to improve their quality for colour defective observers; skin colour database – to assemble a database of skin colours, with spectral data and measurement methods and report on the variation in colour between different ethnic groups, genders and body parts; border between luminous and blackish colours – to study the literature which determines by psychophysical and physiological experiments the border between luminous and blackish colours with white surrounds.

An Activity Report giving details of the membership and current activities of the various Technical Committees in Division 1 can be downloaded from: <http://div1.cie.co.at/>.

– Dr Mike Pointer, CIE Div. 1 Secretary

22 – 25 September 2012

The Color Association of Taiwan welcomes you to attend the AIC 2012 Interim Meeting in Taipei! Under the theme 'In Color We Live – Color and Environment' this meeting will explore the colours of our daily living spheres. We are looking forward to sharing an outstanding conference with you!

The venue will be the Chinese Culture University (CCU), one of the leading universities on Chinese cultural studies in Taiwan. Founded in 1962, CCU nowadays counts 25,000 students, and holds partnerships with more than 80 universities worldwide.



Chinese Culture University is located on Yang Ming Shan Mountain, providing state-of-the-art facilities.

The conference banquet will be held in one of the world's highest restaurants on the 86th floor of the Taipei 101 tower, famous for its gourmet delicacies, including an authentic cultural performance programme.



Ding Xian restaurant on the 86th floor of Taipei 101 tower, high above Taipei city lights.

The Color Association of Taiwan (CAT) is honoured to host this event as a member of the AIC. Understanding the physiological and psychological effects of colours in man-made environments and nature will contribute to creating healthier living environments through colourful design. The aim of the conference is to examine how colour interacts with our daily life, and how hue, vision, light and colour temperature affect human bio-energetic response. Over 250 delegates from 34 countries are expected to attend presentations by more than 60 selected speakers in 12 sessions, with pre-conference lectures, workshops, a poster exhibition, a colour market, and an interesting visitor programme. We look forward to sharing a most colourful meeting in Taipei!



Accommodation will be at the Taipei Grand Hotel, built in classic Chinese cultural style, which offers first class comfort in traditional décor. Placed at the foot of Yang Ming Shan mountain, it's only a 20-minute drive to CCU.

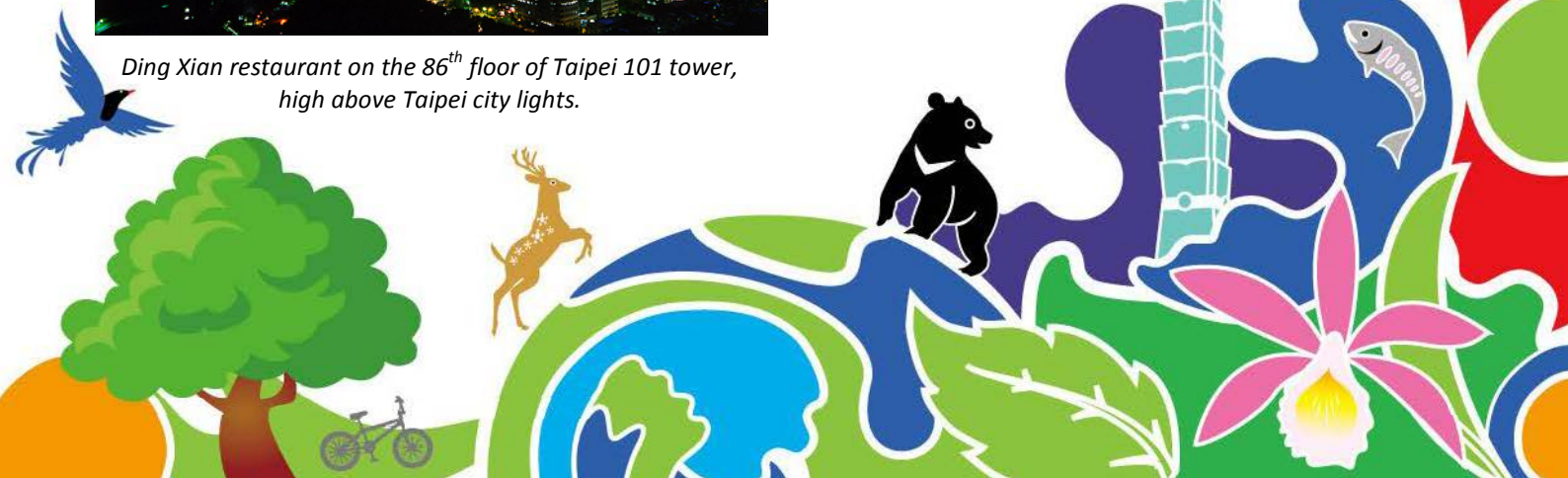


First class facilities at the Taipei Grand Hotel.

Taiwan is an island of outstanding natural beauty. Visitors can encounter fascinating views of the rough north-eastern coastline or enjoy the hot springs of Yang Ming Shan. Taiwan's cuisine is a melting pot of all of China's regional culinary styles, including vegetarian and native Taiwanese taste. Night markets provide a sensual experience of colours, shopping, and entertainment for all age groups. It's an adventure!

The Color Association of Taiwan
Welcomes you to attend the AIC 2012
Interim Meeting in Taipei!

www.aic2012.org



AIC 2013 CONGRESS – NEWCASTLE GATESHEAD, UK

8 – 12 July 2013

The Colour Group (Great Britain) is pleased to invite you to north-east England for the 12th Congress of the AIC. The theme will be **Bringing Colour to Life**. The spectacular venue will be The Sage Gateshead, designed by Lord Norman Foster and located on the south bank of the River Tyne, by the city of Newcastle.



Special events planned for the week include a waterside reception in BALTIC, a dynamic gallery dedicated to contemporary visual media, an exhibition of colour artworks by international artists in the Hatton Gallery, and an orchestral concert themed on colour-music synaesthesia performed in the Sage by the renowned Northern Sinfonia. A full afternoon will be devoted to an excursion to medieval Durham Cathedral, a World Heritage site.



Chromosynaesthesia at the Sage concert hall.



Millennium bridge across River Tyne to the Sage Gateshead.

The Call for Papers is now open at www.aic2013.org. The following list of topics is provided as a guide, but we welcome submissions in any field related to colour. The abstract submission deadline is 17th December 2012.

Lighting and colour	Colour in art and design
Colour vision	Colour in environmental design
Colour science	Sustainable coloration
Colour imaging	Colour in conservation
Digital colour	Colour in nature
Colour measurement	Colour psychology
Colour appearance	Colour education
Colour communication	Colour in forensics and medicine

Special Symposia within the Congress will include:

- 1) Lighting: New Technologies and Colour Rendering
- 2) Colour Harmony: From Perception to Built Environment
- 3) Colour in Fashion and Textile Design
- 4) Multispectral Colour Science
- 5) Colour Vision: Perception and Neuroscience
- 6) Museum Lighting: Conservation and Appearance

We invite submissions of papers or posters or interactive presentations on any aspect of colour. This Congress will provide a unique forum, bringing together researchers, academics, students, artists, architects, industrialists, engineers, designers, computer scientists, lighting experts, media types, exhibitors and business leaders. We anticipate more than 500 delegates from all over the world, with a stimulating mix of all the best in contemporary colour.



Durham Cathedral and environs, a World Heritage site.

The Congress banquet will be held in the gardens of Alnwick Castle. The glorious countryside of Northumberland and surroundings provides many opportunities for visiting nearby sites such as the Angel of the North, Bamburgh Castle, Hadrian's Wall and Lindisfarne Priory. A special social programme will be organised for accompanying persons. This will be a Congress to savour and to remember!

– Lindsay MacDonald and Stephen Westland, Co-Chairs



Alnwick Castle Gardens, location of the banquet.

29 October – 1 November 2014

Mexico invites the entire world to this conference to share knowledge and experiences in psychology, sociology, history, anthropology, restoration, natural pigments, design, art and all disciplines to understand the relationship between colours, local/global culture and identity.

The use of colour in daily life shows an important aspect of the way in which people think, feel and live. Through colour it is possible to see the whole society. If you use colour to communicate on your web site, for example, then you should be aware of how your audience may interpret those colours. This is especially important if you are designing a site intended for an audience of a different culture than your own. The cultural basis for colour symbolism can be very powerful. It would be interesting in this conference to analyse how people express themselves through colours, how the colours define values as identity, nationalism and unity; and whether global colours are dangerous for local identity?

The venue will be the magical Oaxaca City; if we could compact in a single place all the colour of Mexico it would be here, with the richness of old local cultures from a thousand years. Delegates at AIC 2014 will find culture, history, food, and colour in all its abundance. See www.aic2014.org



Mexico is the southern neighbour of the United States. Oaxaca, one of the 31 states of Mexico, is located in the Southwest, and its capital city is Oaxaca de Juárez. The state is best known for its indigenous peoples and cultures. The most numerous and best known are the Zapotecs and the Mixtecs, but sixteen are officially recognised. These cultures have survived better than most others in Mexico due to the state's rugged and isolating terrain. Most live in the Central Valleys region, which is also an important area for tourism, especially for its archaeological sites such as Monte Albán and Mitla.



Demographically, Oaxaca stands out because of the high percentage of indigenous peoples. It is estimated that at least a third are speakers of indigenous languages (with 5% not able to speak Spanish), accounting for 53% of Mexico's total indigenous language speaking population.

Because of its traditions and abundance of raw materials, Oaxaca is a leading producer of handcrafts in Mexico. Handcrafted items here are noted for their variety and quality. Oaxacan handcrafts are traditionally made with wood, wool, clay and leather, and are sold in many venues from local *tianguis* markets to upscale international stores. Pottery has a long tradition that extends far back into the pre-Hispanic period. Oaxaca shares many pottery types with other parts of Mexico, along with two of its own tradition: *barro negro* and the green glazed pottery of Atzompa.



Another major craft category is textiles. Cotton garments produced on backstrap looms date back to early in the pre-Hispanic period, and this form of weaving has been dominated by women ever since. The Spanish introduced the wide European frame loom, which is mostly used by men. Most items are woven with cotton or wool fibres, although palm fronds are used to produce mats and hats. Embroidery is an important part of native clothing.

Oaxaca's cuisine varies widely due to the relative geographic isolation of its peoples, and the climates in which foods are produced. Oaxaca's gastronomy is famous for its *chapulines*, *tamales* in banana leaves, cheese, *tasajo* and its main drink, *mescal*, an alcoholic beverage similar to Tequila. Oaxaca produces seven varieties of *mole* (spicy sauce), the best of which is *mole negro*. Chocolate plays an important part in the making of certain *moles*, but is best known as a beverage.



Oaxaca has good transport links. Federal highway 135 leads from Puebla to Oaxaca City. Frequent buses depart from Mexico City to Oaxaca City. Oaxaca-Xoxocotlan Airport (IATA code OAX) is approximately 7 km (4.3 mi) south of Oaxaca city centre. At that season in Mexico it is Autumn, with a temperature range from 26 °C (78 °F) max to 13 °C (56 °F) min. In short, we have here all the ingredients for a great meeting!



**ASSOCIATION INTERNATIONALE DE LA COULEUR
INTERNATIONALE VEREINIGUNG FÜR DIE FARBE
INTERNATIONAL COLOUR ASSOCIATION**

www.aic-colour.org