



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

**ANNUAL REPORT
2014**



NO. 27

EDITED BY

Lindsay MacDonald
University College London

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People at the AIC 2013 Congress in Newcastle
Photographs by Lindsay MacDonald, Maja Strgar and Adela Shah.

This Annual Report marks the start of a new AIC Executive Committee, and I am pleased to be invited by the committee to stay on as the Editor. So it seems appropriate to have a new graphic on the front cover. It's a reworking of an old idea showing the duality between the additive (RGB) and subtractive (CMY) colour systems. This publication relies on them both, in its online and printed formats.

Thank you to everyone who has contributed to this report, with news of happenings during 2013 in AIC member countries around the world and in the AIC Study Groups. Items worthy of note in this edition are the promotion of the 'Dia da Cor' on the façade of a sky-scraper in São Paulo (p.17), the first report from the new Colour Research Society of Canada (p.19), an encounter with Goethe in Ilmenau (p.24), intensive preparation for a new colour Masters programme in Milan (p.27), the advent of The Color Run in Mexico (p.30), concern about 'colour babbling' spoiling the landscape of Slovenia (p.33), the colourful *Squeasy* bottles reducing plastic waste in Switzerland (p.36), the activities of our new AIC Associate Member, the Color Marketing Group (p.40), a conundrum of colour illusions (p.43), and news about forthcoming AIC meetings (pp.47–50).

The big event in 2013 was of course the 12th Congress, held in Newcastle in the north-east of England. With over 600 delegates from 48 countries and 400 papers presented, it amply demonstrated the strength of the AIC as an organisation and the broad range of disciplines and interests of its members (see report on pages 11–12). There is no doubt that the subject of colour can bring together people from all over the world, and that it resonates with human experience at a deep level. Moreover, we are seeing the rise of the colour practitioner as a professional, especially in the field of environmental colour design. This is an important development, because it indicates that colour practice is not subservient to some other discipline but can be regarded as a discipline in its own right.



Showing off colourful ties at the banquet at AIC2013, with John Hutchings (left) and Frank Rochow (centre).

A significant area of application of colour, in which many members of AIC are involved, is cultural heritage. France, Italy, Sweden, Bulgaria, Hungary and Thailand are all reporting activity in this area. And it is a major focus of the research work of Roy Berns, for which he received the Judd Award (p.13). As the technology of digital imaging, displays, colour management and 3D digitisation has developed, it has become possible to make digital representations of objects in collections in museums and galleries. This in turn has enabled the image reproduction of those objects in various media, including mobile devices. Making digital surrogates that look realistic under diverse viewing conditions is a great challenge for models of appearance, including both colour and gloss. Using digital representations of cultural heritage objects effectively for conservation and restoration is now a mainstream pursuit of the digital humanities and is a worthy subject for AIC.



"Everybody say A ... I ... C ...". Delegates warming up for the AIC2013 group photograph on the concourse of The Sage Gateshead.

PRESIDENT'S REPORT

Dear Friends,

My first words as the incoming President of the AIC for the biennium 2014–2015 are in recognition for the work done by the previous Executive Committee represented by my predecessor, Mrs Berit Bergstrom. Under her presidency, the AIC has done much important work to promote the study of colour in the various fields in which it is involved, such as architecture, design, multimedia reproduction, industrial colorimetry, applied psychology, physiology and many others. I would also like to mention Verena M Schindler, Lindsay MacDonald, Shoji Tominaga and Maria Luisa Musso, who actively worked very hard as members of the former Executive Committee.

The AIC has developed an intense activity that is reflected in the vitality of its conferences and meetings, as evidenced in the recent 12th AIC Congress in Newcastle. This event was a great success and the level of participation in contributions presented there was very high. We also had a wonderful opportunity to exchange opinions whilst enjoying the beautiful landscapes of the English countryside and monuments, as during the tour we made to visit Durham Cathedral and the very friendly dinner at Alnwick Castle Gardens.

The 12th Congress of the AIC was held in the magnificent Conference Centre (The Sage) in Gateshead-Newcastle. I would like to warmly thank the Co-Chairs Lindsay MacDonald and Stephen Westland, the Colour Group of Great Britain and the Organising Committee of this conference for the extraordinary work they have done. The scientific programme was carefully prepared. The result was very impressive with oral sessions devoted to very well-chosen topics, such as: Colour in Art, Colour and Food, Colour Ergonomics, Colour Aesthetics, Colour Imaging, Colour Technology, Fashion, Product Design and Branding, Colorimetry, Colour Vision, Colour Printing, Colour Education and others. It is also worth mentioning the keynote talks where we had the opportunity to hear Professors Andrew Parker, Hilary Dalke and Stephen Palmer, and the capstone presentation given by John McCann.

In the Judd Award ceremony we had the opportunity to savour the style of the winner of the 2013 Judd Award, Professor Roy Berns, with the talk entitled 'Conversations with an Artist'. It was a good moment to recognise the successful research undertaken by Roy during many years in the field of colour.

The AIC continues to grow in the number of its members, regular, individual and associated, and in the activity of the diverse Study Groups: Colour Education (CE) with Robert Hirschler as chair; Environmental Colour Design (ECD) with Verena M Schindler as chair; Visual Illusions and Effects (VIE) with Osvaldo da Pos as chair; Colour Vision and Psychophysics (CVP), formerly Colour Perception of the Elderly, with Katsunori Okajima as chair; and the Language of Colour (LC) with Jin-Sook Lee as chair.



Locations for future meetings are already assured: 2014 AIC Interim Meeting 'Colours, Cultures and Identity: Past, Present and Future' in Oaxaca, Mexico, 21–24 October; 2015 AIC Midterm Meeting 'Colour and Image' in Tokyo, Japan, 19–22 May; 2016 AIC Interim Meeting 'Colour in Urban Life: Usability in Images, Objects and Space', in Santiago de Chile, 18–22 October; and the 13th AIC Congress 2017 in Jeju Island, Korea, 16–20 October.

During 2013 four electronic bulletins, the AIC e-news, were sent by email and are posted on the AIC home page. There the Journal of the International Colour Association (JAIC), which is actively published online, can also be found.

The new Executive Committee (EC) aims to promote new awards, one for young researchers and one in the field of design, architecture and colour expression in art, to recognize those who excel or have

excelled in research in creative colour fields. We also want to continue to promote the International Colour Day, the AIC wiki and renewal of our logo. For all this we have an enthusiastic EC which represents four continents and comprises outstanding individuals of great experience and distinction who bring new perspectives and initiatives. We also benefit from the experience of volunteers who are not members of the EC, but have offered to work for the AIC, including José Luis Caivano (web site), Lindsay MacDonald (Annual Report), Manuel Melgosa and Mike Pointer (CIE) and Stephen Westland (JAIC). They, along with the Chairs of the Study Groups and all those who participate in them, will enable the AIC to continue to grow and with it the vitality of colour studies internationally.

A handwritten signature in blue ink, which appears to read 'J. Romero'.

Professor Javier Romero, AIC President



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AIC ACCOUNTS

Accounts for the two-year period 1 January 2012 to 31 December 2013, prepared by the AIC Treasurer, Nick Harkness.



AIC Bank Accounts Reconciliations 2012	
UBS Opening Balance 1st January 2012	CHF 13,932.89
Summary of transactions in the period	
1st January 2012- 2nd August 2012:	
Income from members (USB): Electronic or Bank Draft	CHF 1,194.52
Bank interest:	CHF 3.65
Bank fees:	-CHF 85.00
Website Expense - Dimitris Mylonas	-CHF 225.92
Funds Transfer to St George Bank Sydney	-CHF 14,820.14
UBS Closing Balance 2nd August 2012	CHF -

St George Bank Current Account Opening Balance 2nd August 2012	\$ -
Summary of transactions in the period	
2nd August 2012 - 31st December 2012:	
Deposit from UBS CHF 14,820.14	\$ 13,932.17
AIC Registration - Accountant Fees	-\$ 396.00
Transfer Savings Account 10/08/2012	-\$ 10,000.00
AIC Registration Costs	-\$ 195.51
Print Republic UK - Newsletter 2012	-\$ 940.29
Member Income	\$ 1,258.57
Trial payments PayPal	\$ 0.19
Bank Fees	-\$ 150.00
St George Bank Current Account Closing Balance 31st December 2012	\$ 3,509.13

St George Bank Opening Balance 2nd August 2012	\$ -
Savings Account	
Deposit from Current Account 10/08/2012	\$ 10,000.00
Interest 10/08/12 - 31/12/2012	\$ 146.11
Withholding Tax	-\$ 64.00
St George Bank Savings Account Closing Balance 31st December 2012	\$ 10,082.11
Total Funds	\$ 13,591.24

St George Bank Opening Balance 1st January 2013	\$ 3,509.13
Current Account	
Breakdown of transactions in the period	
1st January 2013 - 31st December 2013	
Transfer to Savings Account 16/01/2013	-\$ 2,000.00
Income from members 01/01/2013 - 31/12/2013	\$ 3,608.88
Annual report - Print domain	-\$ 751.18
Helmut Leitner Software - Wiki	-\$ 1,448.64
Bank Fee Overseas Receipt	-\$ 30.00
Account Service Fee 01/01/2013 - 31/12/2013	-\$ 60.00
St George Bank Closing Balance 31st December 2013	\$ 2,828.19

St George Bank Opening Balance 1st January 2013	\$ 10,082.11
Savings Account	
Deposit from Current Account 16/01/2013	\$ 2,000.00
Interest 01/01/2013 - 31/12/2013	\$ 212.96
Withholding Tax	-\$ 153.00
Balance 31/12/2013	\$ 12,276.08
Total Funds	\$ 15,104.27

Mr. Nick Harkness Pty Ltd.
P.O. Box 764
Newtown, NSW 2042
Australia

May 13, 2014

Dear Nick,

Thank you for sending copies of all AIC accounts and bank statements from the last auditor's report ending December 31, 2011 until the end of 2013 on December 31. This information was necessary and very useful in completing my auditor's report for that 2 year time period.


First and foremost, you are to be commended on the excellent work you did as AIC Secretary/Treasurer over that time period. You had to face some challenges that have not been dealt with in my tenure with AIC. You were responsible for the transition of the AIC finances from the Swiss UBS Bank to the Australian St. George Bank. You did this seamlessly under the pressure of the Swiss UBS Bank giving you a very short period of time to end business with AIC. The documentation of all transactions was accurate and flawless, which made my job as auditor easier. You also kept AIC up-to-date with the most flexible payment plans by setting up a very convenient PayPal account for AIC. Finally, you left AIC financially sound with a surplus of 15,104.27 AUD as of December 31, 2013. Congratulations on being an outstanding Secretary/Treasurer for AIC!

Here are the important specifics that are worthy of note for my report.

- The last Auditor report showed CHF 13,932.89 in the Swiss USB Bank on December 31, 2011, which corresponds to the opening balance of that account on January 1, 2012.
- The transfer from Swiss UBS Bank to St. George Bank Freedom Account 474824079 occurred on August 6, 2012
 - The transfer amount was CHF 14,820.14
 - On August 7, 2012, the amount in the St. George Bank Freedom Account was AUD 13,932.17.
 - On August 7, 2012 the closing amount in the Swiss UBS Bank was CHF 0.00
- It was of interest to put some AIC assets into a savings account. So the St. George Bank Savings Account 411780460 was established on August 10, 2012.
 - AUD 10,000.00 were transferred from the Freedom Account into this Savings Account
 - On January 16, 2013, AUD 2,000.00 were transferred from the Freedom Account into this Savings Account
 - As of December 31, 2013, the total amount in the Savings Account was AUD 12,276.08 leaving a total amount of AUD 2,828.19 in the Freedom Account
- After combining the amount in the St. George Bank Freedom Account with the amount in the Savings Account, the AIC total asset amount as of December 31, 2013 was AUD 15,104.27.

The financial status for AIC is very sound with a liquid Freedom Account and a significant amount of money in an interest-bearing savings account at the end of the year 2013. If this philosophy continues, the financial future of AIC will continue to look good.

Respectfully submitted,



Paula J. Alessi

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Nick Harkness

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Berlin (Frohnau), 16th May 2014

Dear Nick!

I have received copies of the AIC accounts and bank statements relating to the two years ending 31st December 2013.

It was a tremendous work for the Secretary/Treasurer to achieve a smooth transition from the Swiss UBS Bank to the Australian St. George Bank, especially considering the short notice of the UBS to end the business relation with the AIC.

At the same time he introduced the convenient payment method using PayPal.

I am happy to report, that, despite all the hassle with the transition, the Bank account statements agree with the records on income, expenditure and transfer for the above period.

In detail:

The opening balance of the UBS Bank showed CHF 13.932,89 for 1st January 2012, which corresponds with the amount given in the last Auditor's reports for 31st December 2011.

The closing balance of the UBS Bank before the transfer of the money to the St. George Bank showed CHF 14.820,14 for 6th August 2012 and CHF 0,00 after the transfer.

The opening balance of the St. George Bank account # 474 824 079 showed AUD 0,00 before the transfer and AUD 13.932,17 credit from the transfer (CHF 14.820,14) on 7th August 2012.

The AIC assets thereafter, on August 10th, have been split into the "Freedom Business Account # 474 824 079" and the "Business Access Saver Account # 411 780 460", to gain some interest.

All transfers between these two accounts have been accurately documented.

The closing balance in the "St. George Freedom Business Account" at 31st December 2013 is AUD 2.828,19

The closing balance in the "St. George Business Access Account" at 31st December 2013 is AUD 12.276,08.

The total amount of AIC assets is AUD 15.104,27 at 31st December 2013.

Yours sincerely



Frank Rochow

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In addition to the categories of regular member and associate member, Article 4 of the AIC Statutes defines the category of individual member: *'Persons may be affiliated with the AIC as individual members if they are interested in the aims of the AIC and show they have knowledge in the field of colour. Individual members may take part in the activities of the AIC and receive the information and documents intended for regular members. They shall, however, have no right to vote. They cannot make part of the AIC Executive Committee unless they belong to and are nominated by a regular member.'*

Applications for individual membership are scrutinised by members of the AIC Executive Committee to ensure that the applicant demonstrates an appropriate background and professional standing and experience in one of the disciplines of colour. An individual member may be based in a country that already has a regular member society. Individual members are encouraged to participate in the annual AIC meetings and to contribute to the AIC Study Groups. Every individual member receives the AIC e-news by email and a printed copy of this Annual Report.

Name

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Michel Cler
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Justine Fox
Prof Dr Ana Marija Grancaric
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Natacha Le Duff
Dr Arch Ines Klemm
Markus Maas Kotterink
José María Macías
Galyna McLellan
Dimitris Mylonas
Leila Susan Munive
Dr Larissa Noury
Dr Leonhard Oberascher
Dr Zena O'Connor
Becky Ndidi Oyibo
Dr Peter Paizs
Dr Maria Papadopoulou
Dr Renata Pompas
Arch Rita Rao
Dr Alan R Robertson
Ajit Dnyaneshwar Shinde
Kevin Smet
Mette Terkildsen
Assoc Prof Rengin Ünver
Dr Dipl-Ing Andrea Urland
Prof Arne Valberg
Mark Wentworth
Prof Arch Pietro Zennaro
Dr Verónica Zybaczynski

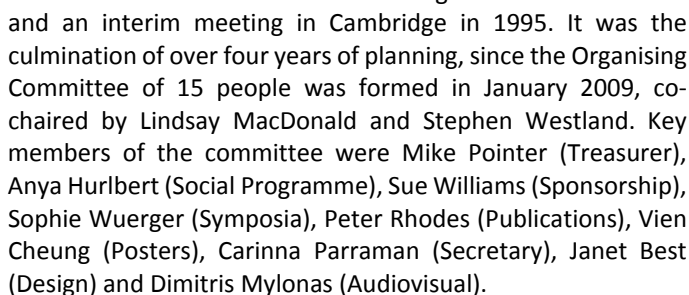
Country

Nigeria
Canada
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New Zealand
Portugal
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Croatia
Russia
Iran
USA
Sri Lanka
Chile
India
Germany
Switzerland
The Netherlands
Mexico
Australia
UK
Peru
France
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Denmark
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Slovak Republic
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larinoury@gmail.com
ecd@leoncolor.com
zena.designresearch@gmail.com
oyibobecky@gmail.com
paizspeter@gmail.com
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rita.rao@fastwebnet.it
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arne.valberg@ntnu.no
mark@colourforlife.com
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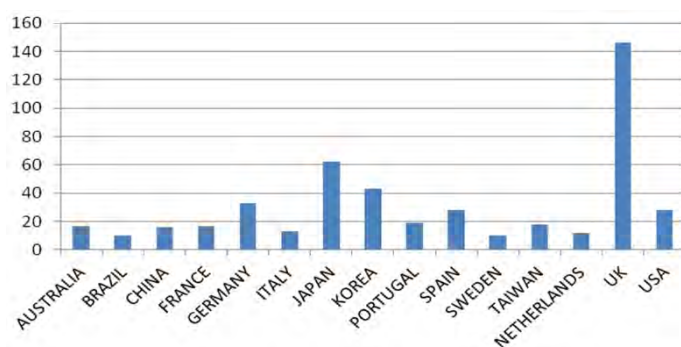
The venue was the spectacular Sage Gateshead. With three first-class auditoriums, professional sound and lighting systems, and all the facilities of the city within walking distance, it was a memorable place for an international meeting.



Each day commenced with a plenary session and distinguished keynote speaker, on a theme relating to the later parallel sessions: Andrew Parker (Oxford) 'The role of colour in the evolution of plants, animals and vision'; Fiona Jenvey (London) 'Colour Trend Forecasting Intelligence'; Roy Berns (RIT) 'Conversations with an Artist'; Hilary Dalke (Kingston) 'Colour: Influence on environment, behaviour and special needs'; and Stephen Palmer (Berkeley) 'Colour, Music and Emotion'. The capstone address was given by John McCann (USA).

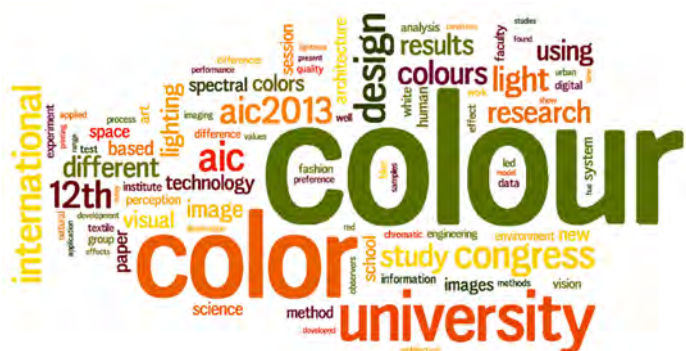
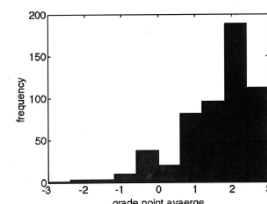
During the week there were nine Special Symposia, integrated with the conference sessions, which focused on current colour research themes, each led by an expert in the field with a group of invited speakers:

- 1) LED Lighting and Colour Perception – Peter Hanselaer
- 2) Museum Lighting: Conservation, Appearance – Charles Hunt
- 3) Colour in Fashion: Making it Happen – Janet Best
- 4) Sustainable Coloration – Andrew Filarowski
- 5) Multispectral Colour Science – Stephen Westland
- 6) Colour Aesthetics – Karen Schloss
- 7) Environmental Colour Design – Hilary Dalke
- 8) Colour Vision: from Retina to Cortex – Sophie Wuerger
- 9) Colour Harmony: Perception, Environment – Antal Nemcsics



The total number of attendees was 622, of whom 439 (71%) were delegates, 135 (22%) were students, 30 were exhibitors, and 18 were accompanying persons. Delegates came from 48 countries, with the greatest numbers from UK, Japan, Korea Spain, Germany and USA.

For the technical programme 575 abstracts in total were submitted through *EasyChair* from 59 countries. 127 reviewers were assigned 17 papers, so that each paper should have been reviewed four times. In reality, only 66% of reviews were completed so each average of 2.7 times. The majority of scores. Three publications were prepared: abstracts, a printed A4 1834-page proceedings with ISBN, and a 145M the PDF versions. All AIC2013 delegates of abstracts and CD in their colourful the conference 193 oral presentations parallel streams, plus 275 A0 posters.



International Colour Association Annual Report 2014 – No. 27

An international panel of ten judges, chaired by Prof Javier Romero, chose the three best posters. The winners received their prizes during the closing ceremony: First Prize: Renata Pompas (Italy) 'Colour Trend Palette from Environmental Landscape'; Second Prize: Seyed Ali Amirshahi (Germany) 'Color: A Crucial Factor for Aesthetic Quality Assessment'; Third Prize: Francesca Valan (Italy) 'Color for Children Spaces'.

The principal sponsors of the Congress were the Society of Dyers and Colourists (SDC), VeriVide and RAL. The Judd Award was sponsored by NCS. Eighteen exhibitors had stalls among the posters and art on the three levels of the galleries around Hall One and along the mezzanine gallery in front of Hall Two.

The turnover for the whole event was £258K, and it just broke even. The standard registration fee (early-bird rate) for the full week was £495 = €600 for normal delegates, and £225 = €270 for students, excluding tickets for the concert and banquet. The finances were underwritten by The Colour Group (GB), in pursuance of its mission 'to encourage the study of colour in all its aspects and to promote the education of the public in the field of colour'. The professional event management company Benchmark Communication was engaged to take care of all administration. They were based in Newcastle with experience in running conferences of this size. Their principal tasks were delegate registration, payment processing, venue liaison, on-site event management, development of Web site, marketing, and design of brochures and signage.



Symphony concert of chromosynaesthetic music at the Sage.

The traditional excursion on Wednesday afternoon was to the nearby ancient city of Durham and its Cathedral (a World Heritage site), including tours of the stained glass windows and the rare opportunity to see the renowned medieval illuminated manuscript book known as the Lindisfarne Gospels.



Excursion through the streets of Durham to the Cathedral.

The banquet on Thursday was held at Alnwick Castle Gardens on the coast of Northumberland, followed by a ceilidh (country dancing). There was also a full programme of tours and activities during the week for accompanying persons. Altogether it was a brilliant week, and maintained the great tradition of colourful events organised by members of the AIC.



Banquet and high spirits at Alnwick Castle Gardens.



Reception at 'Touching Colour' art exhibition at the Hatton Gallery.

A social event was held every day, commencing with an informal 'ice-breaker' reception by the riverside on Sunday 7th. The main reception was held on Monday evening at the Hatton Gallery, on the campus of Newcastle University, where there was an art exhibition 'Tactile Colour' specially curated to coincide with the Congress. A public symphonic concert of chromo-synaesthetic music was played by the Royal Northern Sinfonia on Tuesday evening in the main hall of the Sage, accompanied by an interactive display of coloured lighting. The latter was a world première of new digital circuitry and algorithms developed by Dr Kia Ng and his team at the University of Leeds, which generated coloured projection graphics in real time with the music as it was being played by the orchestra.

JUDD AWARD 2013 – ROY BERNS



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 2013 Judd Award Committee were: Robert Hunt, Mitsuo Ikeda, Roberto Lozano, Paula Alessi, Lucia Ronchi, Lars Sivik, John Hutchings, Arne Valberg and Alan Robertson. There were six candidates.

The 2013 recipient was Dr Roy Berns, who was honoured at the AIC Congress in Newcastle. In her citation, Dr Paula Alessi (former President of AIC 2002–2005) noted that Roy's accomplishments span the areas of colour science education, colour difference formulae development, spectral-based imaging systems, total appearance measurement, and digital rejuvenation of precious works of art. All of these have had a significant global impact. In the area of colour science education, Roy was appointed Richard S Hunter Professor in 1985 at the Munsell Color Science Laboratory at the Rochester Institute of Technology (RIT) following the tragic death of Franc Grum. For nearly 30 years students from around the world have been inspired by Roy and he has supervised 46 students for masters and doctoral degrees. He is author or co-author of hundreds of articles published in prominent journals such as *Color Research and Application*, *JOSA*, *JIST*, *JEI*, *JSID* and *Studies in Conservation*. He has also given hundreds of engaging and informative presentations at conferences in colour, imaging, optics and art conservation all around the world.

Roy Berns duly recognised that the next colour science frontier is the measurement and standardisation of total appearance, i.e. the colour and spatial properties of materials. Using principles of photometric stereo and linear light source reflectometry, he has built imaging systems to measure spectral reflectance and surface mesostructure (gloss and BRDF). From these data, images can be rendered using computer graphics enabling the viewer to interact with the image as if moving around the actual object. Recently, Roy has embarked on a new area of research, solid-state lighting for museum applications, bringing his unique colour science expertise literally to shed new light on old problems.



Roy Berns using a spectrophotometer to measure pigment spectra on 'The Bedroom' (1888) at the Van Gogh Museum in Amsterdam.

Dr Alessi concluded by noting Roy's use of colour science and imaging science methods for digital rejuvenation of artwork. The application of his techniques has resulted in more reliable, efficient and faithful colour reproduction of original paintings, using a combination of analytical spectroscopy, instrumental colour measurement and colour-managed image processing. His methods have become renowned internationally as they have been applied at the Art Institute of Chicago, the National Gallery of Art in Washington DC, the Museum of Modern Art in New York, the J Paul Getty Museum in Los Angeles, and the Van Gogh Museum in Amsterdam. The AIC acknowledges Roy for his great pioneering work in this area because it has gone a long way towards bridging the gap in colour communication between artists and scientists.

In his acceptance presentation, 'Conversations with an Artist', Roy acknowledged his debt to many great colour scientists of the past, including a number of previous Judd Award recipients. He described new appearance dimensions of vividness, depth and clarity. He pointed to variability in the colour vision of 'normal' observers and effects of metamerism. He explained the influence of light and air quality on the colour stability of art pigments, and his numerous intensive projects in restoring the appearance of paintings, especially by Van Gogh.



(left to right) Javier Romero, Paula Alessi, Roy Berns and Berit Bergstrom in the AIC 2013 Judd Award ceremony.

Pieter Walraven (1930–2013) from the Netherlands, past CIE Division 4 and associate Division 1 Director, passed away on 27 February at the age of 82. He was active since the 1960s in both CIE and AIC as an expert on colour vision and perception. He was also active as a road signalisation expert, through which capacity he became involved in CIE Division 4 Road lighting, culminating in the Directorship of Division 4 from 1991 to 1999. Under his guidance Division 4 went through a very active period in which much was accomplished, especially because of Pieter's



tactful and friendly approach which was so typical for him. He organised the first visionary workshop for the Board of CIE in the mid-1990s which signalled that the scientific work of CIE was going to be combined with a more commercial approach.

Already at a young age Pieter Walraven became Managing Director of the Institute of Perception in Soesterberg, the Netherlands, part of the Dutch independent research organisation TNO. As a scientist he specialised in colour vision and perception, and quickly became one of the foremost world experts on these subjects. Many of his publications are still today a valuable source for students and professionals. AIC awarded him and Hans Vos of the same Institute, in 1991, with the prestigious Judd Award for many contributions to the understanding of the mechanisms of colour vision. In the Netherlands Dr Walraven was the successor of Prof de Boer as Chairman of the Dutch Lighting Society, NSVV. In his work and contacts he was an affable, friendly and engaging person. This was one of the reasons why Pieter made so many friends in CIE and AIC circles. Working with him was a pleasant and stimulating experience. He will be missed dearly by all his friends and colleagues.

– Wout van Bommel, Nuenen, The Netherlands

Jocasta Innes (1934–2013). The famous interior designer Jocasta Innes died in Spitalfields, London on 20 April. Born in Nanking, China, she was educated in Egypt and England and then studied modern languages at Girton College, Cambridge. A prolific writer on domestic arts and practical home-decorating, she soon became a household name and popularised the use of



stencilling, stippling, rag-

rolling and sponging, notably in *Paint Magic* (1981), which sold a million copies worldwide, and led her to launch products and open a series of shops of the same name. Later publications included: *Paintability* (1986), *Windows* (1986), *Scandinavian Painted Decor* (1990) and *Colour* (1997).

– Roy Osborne

Margaret Walch (1940–2013). The eminent design historian and colour forecaster Margaret Walch died in New York on 10 August.

She studied art and art history at Vassar College, New York, and at Swarthmore College, Pennsylvania, and social history at New York University. As a



journalist she worked in Claremont, California and London (where she wrote *How the British Viewed the American Revolution*, 1976). Following 15 years in Albuquerque, New Mexico, she returned to New York City (1986) and became director (until about 2008) of the Color Association of the United States (CAUS), in association with her stepmother, Marielle Bancou-Segal. Her father, William Charles Segal (1905–2000), was an entrepreneur and artist, who had founded and managed *American Fabrics* magazine (1941–81) and transformed the Textile Color Card Association into CAUS in 1955. Walch's extensive research into the history of colour in design is documented in three publications: *The Color Source Book* (1971), *The Color Compendium (A–Z Encyclopaedia)*, 1991) and *Living Colors* (1995), the latter two in association with Augustine Hope.

– Roy Osborne

Harvey Daniels (1936–2013). The exceptional colourist, painter and printmaker, Harvey Daniels, died in France on 23 August. Daniels trained at Willesden School of Art and the Slade School, London, during which time he also visited Paris to paint at the

Louvre Museum. His influences ranged widely from Chardin through Sickert, Matisse and the Delaunays to Stuart Davis and Pop Art. He lectured and taught in many contexts, principally in Brighton (where he set up a post-graduate print-making course) but also in the USA and continental Europe. In addition to art books and exhibition catalogues, Daniels published *Printing* (1971 and 1974) and



Exploring Printmaking (1972, with Silvie Turner). He exhibited widely and his work is represented at Yale University and at the Metropolitan Museum and MOMA, New York. In June he organised a large joint retrospective exhibition, with Judy Stapleton, in Lewes, Sussex.

– Roy Osborne



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 colour 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 a strong interest in the Group from the artistic community who share an interest in the study of colour science and applications in the diffusion of their works.



National Conference of Color in Arts 2013 Left to right: Dardo Bardier, Mabel A López, José Luis Caivano, María Paula Giglio, María Eugenia Bravo, María Cuevas Riaño, Omar Burgos and Salvador Melita.

To promote the dialogue, discussion and exchange of ideas between artists, critics, curators, researchers and art historians, the National Conference of Color in Arts 2013 was held on 30 August at the National Institute of Arts (IUNA), in Buenos Aires, organised by the Argentine Color Group and the IUNA Area of Arts Critical. Three keynote lectures were presented: (1) Dardo Bardier (architect, Uruguay): 'Color, architecture and human biology'; (2) María Cuevas Riaño (professor at the Faculty of Fine Arts, Complutense University of Madrid, Spain): 'Systemic thinking. Development of creative strategies for creating chromatic sequences'; (3) Salvador Melita (professor at Faculty of Fine Arts, National University of La Plata, Argentina): 'Chroma and saturation: their differences and work on image color correction in the visual environment'.



Top left: Dardo Bardier; top right: Omar Burgos with Gracia Cutuli; Lower left: Salvador Melita with María Cuevas; right: Gracia Cutuli.

Two discussion panels were also held. The first, 'Experiences in the field of color', was composed by Gracia Cutuli, textile artist, and Omar Burgos, representing the artists of GAC. The second, 'Teaching color in the arts', was composed by María Cuevas Riaño and Salvador Melita. In addition, 9 oral presentations by authors from different cities and universities of Argentina, addressed issues of colour in cinema, visual arts, art history, performative language, and teaching colour. Finally, a 'Space for reflection and exchange' among participants was conducted, based on the theory of teaching colour in the arts.

A National Meeting on Color was held 8-9 November at the Faculty of Architecture, Design and Urbanism of the National University of Mar del Plata (FAUD-UNMDP). Six keynote lectures were presented:

- Jean-Jacques Ezrati (member of the International Council of Museums ICOM, and the French Association of Lighting Designers and Technicians ACE): 'The lighting of the exhibition as part of museum scenery'.
- Georgina Ortiz Hernández (professor at the National Autonomous University of Mexico): 'Uses and meanings of color in pre-Hispanic textiles'.
- Roberto Daniel Lozano (AIC Judd awardee, Argentina): 'Measurement of color and appearance in industry'.
- José Luis Caivano (president of the International Assoc. for Visual Semiotics, professor at the University of Buenos Aires): 'Interaction between color and cesia in color mixtures'.
- Omar Burgos (artist, former president of the Argentine Color Group): 'The Virgin of the Rocks by Leonardo Da Vinci'.
- Anahí López (PhD in Engineering, researcher and professor at the National Technological University Argentina): 'Studies on color and finish of mixtures of portland cement to determine the optimum proportions of its material components'.



Speakers José Luis Caivano, Omar Burgos, Georgina Ortiz Hernández and Anahí López, some authors of papers, and committee members.

Based on a learning experience called 'Light boxes as a tool for color matching in subtractive and additive mixtures', a workshop was presented by María Paula Giglio (teacher and researcher FAUD-UNMDP, current president of GAC). Additionally, 23 oral presentations and 13 posters were presented on topics such as colour in architecture and design, arts, industry, and colour education. In turn, a 'Space for reflection and exchange' was conducted, based on industry, technology and basic sciences, to analyse the relationship between research fields and the production environment.



2013 was a busy year across most divisions of the Colour Society of Australia spreading the word of colour. However the increase in the use of new technology and busy lives have seen reduced numbers at many of our meetings. A new CSA National President

Glen Bowden from NSW Division was elected mid-year.

New South Wales Division continued to thrive with well-attended meetings throughout the year and an increase in student memberships due to their involvement with design schools in NSW. The speaker programme for the year included Trend Forecasting; a workshop where members made their own colourful Christmas baubles; an award-winning jewellery designer speaking on his selection of high quality gemstones, and site visits to trade showrooms. One eventful evening saw NSW members visiting the Sydney Festival of Lights where many public buildings were colourfully lit.



Colourful display at the Sydney Festival of Lights.

Queensland, with a very large area to cover, holds meetings in two parts of the state. Meetings included discussions on the colours and early architectural styles of heritage homes in Queensland; glass bead making; and a well-attended meeting on early handmade quilts of Australia – one of the earliest was sewn by female convicts on an early transportation ship.



Early Australian quilt, hand-made by convicts.

Western Australia is a fully active division, hosting a number of workshops throughout each year for its members. One presentation covered the Masters project of a CSA member for the 'recolouring' of a country town, now almost derelict after the closure of several local industries. A visit to the new WA Herbarium and its research laboratories gave members an opportunity to see rare plants, including many very early specimens collected by early explorers and settlers. A guided visit was made to the WA Art Gallery to see works on loan from MOMA in New York 'Van Gogh, Dali and Beyond' and was a strong highlight for the year.



Visiting the 'Van Gogh, Dali and Beyond' exhibition in Perth.

Tasmania, although with a small group of members and supporters, continued to host good meetings. One event which created strong interest saw the Urban Designer from the Launceston City Council discuss the issue of signage in streetscapes and town centres, where colour, clutter and split-second viewing are key considerations. Launceston is one of the oldest settlements in Australia, beginning with a convict/penal settlement, and it has a wide variety of building styles.

The Victorian Division continued to struggle with attendance numbers, and held joint meetings with other groups such as the Surface Coatings Association. One such meeting saw CSA members present their extraordinary *trompe l'oeil* works creating clever street murals and perspective views on the sides of buildings. Other meetings included 'Paint in the Park' with artists, and the launch of International Colour Day for Australia.



The remarkable transformation produced by a trompe l'oeil decoration on the side of a building in Melbourne.

A number of CSA members attended the AIC Congress in Gateshead in July, and all enjoyed the excellent speaker programme and the well-planned social events.



Colour is Brazil's hallmark, the chain link with natural beauty of the country, the origin of Brazil's name and identity issues. The exuberance of Brazil's colours may

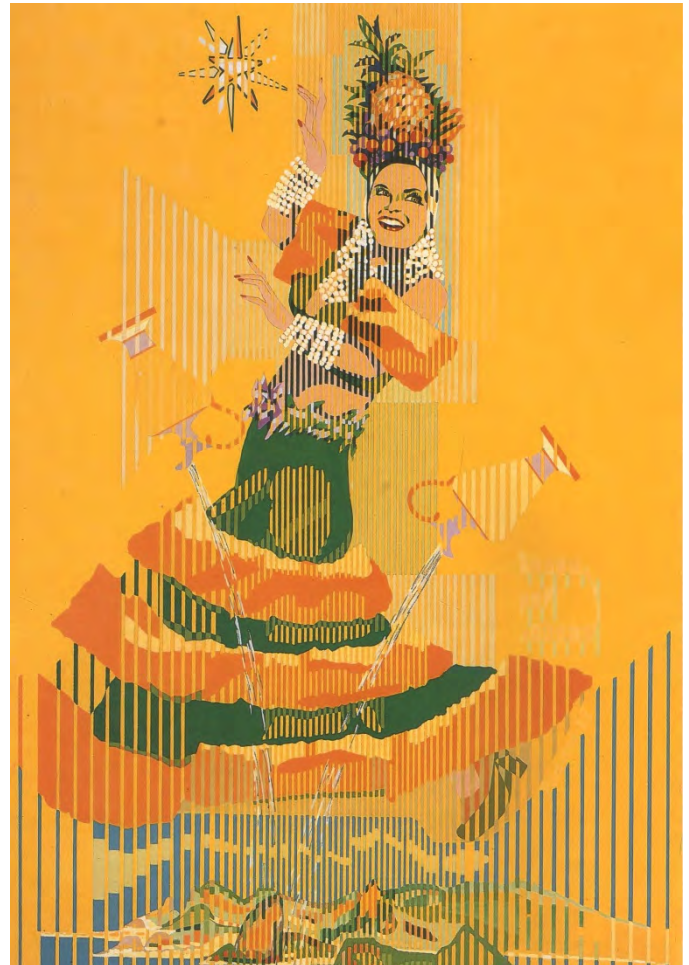
be observed in the diversity of its marine life, national wild forests and also in the variety of minerals, gems and precious stones. In February, the richness of Brazil's colours is expressed in Carnival, the most famous Brazilian festival, related to rituals of sun and fertility in classical antiquity. Nowadays Carnival is inseparable from Easter. March begins with Lent, a period of forty days, habitually dedicated to abstinence and fasting in preparation for the Pascal celebration. Thus the International Colour Day, 21 March, was devoted to reflection and discussion on how the proper use of colours could lead toward a more vibrant, harmonious and health world.

The President of PROCOR BRASIL, Prof Dr Paulo Felix M Conceição, and Director Antonio Carvalho Barbosa, met with the Governor of São Paulo Dr Geraldo Alckmin at Bandeirantes Palace, seat of Government, to thank authorities for the institution of Brazil Colour Day: 21 September. From May to November, an important colour event occurred in São Paulo. It was an exhibition totally dedicated to colour perception phenomena: THE COLOUR NAME (O NOME DA COR) held in São Paulo at SESC Santana, a leading cultural institution.



Prof Dr Paula Csillag, Vice-President of PROCOR BRASIL, as an independent colour expert, worked as a consultant for this exhibition, which involved courses, workshops, and open-air colour experiences. It was marked by the presence of the keynote speaker, Israel Pedrosa, one of the most important and well-known Brazilian authors on colour.

On 18 June Prof Dr Paulo Felix visited the headquarters of Federation of Industries of the State of São Paulo (FIESP). The Associação Pro-Cor do Brasil attended the inaugural ceremony of the new board of the Union of the State of São Paulo Industry Paints and Coatings (SITIVESP). On this occasion the new President Narciso Moreira Preto, reaffirmed the commitment of SITIVESP to support initiatives in the field of colour.



On 21 September, from 20h00 to 6h00 next day, Brazil's Colour Day was celebrated with an exhibition of art images in movement, on the façade of the FIESP building, at Avenida Paulista, one of the most famous postcards of São Paulo, at the Digital Art Gallery of Sesi-SP. This action was made possible by the representation of both SITIVESP and PROCOR to the Federation of Industries of the State of São Paulo. The celebration of '21 de Setembro: Dia da Cor' on the facade of FIESP building, called attention to the importance of colour in the consolidation of Brazil's industries and economy.



Prof Valeria Maria Tavares Braz Cebola, one of the founders and the first President of PROCOR BRASIL, received an Honourable Mention for her participation in the creation and development of the association, as well as support for the creation of Brazilian Colour Day, affiliation to the AIC and exchange with the Portuguese Colour Association (APCOR).

ГРУПА ЦВЯТ COLOR GROUP БЪЛГАРИЯ BULGARIA

In 2013 the association of Color Group – Bulgaria continued its scientific and popularising activities in the domain of colour science, as well as the organising and conducting of scientific forums and its publishing activities.



CGB members at Balkancolor 2013 in Veliko Tarnovo.

The main event of the 2013 agenda of the Association was the international scientific conference 'BALKANCOLOR – Color in all directions', organised in June together with the St Cyril and St Methodius University of Veliko Tarnovo. The Conference was held within the framework of events supporting the candidature of Veliko Tarnovo for European Capital of Culture in 2019.

Often referred to as the 'City of the Tsars', it is located on the Yantra River and is famous as a historical capital and for its unique architecture. The participants were congratulated by the Mayor of Veliko Tarnovo, and



Lilia Ruseva with her artworks.

they all could enjoy the 'Sound and Light' show. Over 50 presentations were made, with topics in the varied domains of coloristics, colorimetry, colour modelling of space, architecture, design,



fine art and applied art. The main accompanying event of the Conference was the students' plein-air 'The Colours of Tarnovo' attended by participants from the National Academy of Arts, the New Bulgarian University and the University of Veliko Tarnovo. Special attention was paid to youth art, as well to the artworks of the members of 'Color Group – Bulgaria', who prepared a joint exhibition at the central city exhibition space: the Rafail Mihaylov Halls, organised with the cooperation of the Department of Fine Arts of the New Bulgarian University. Colour projects of students were shown in the halls of the Faculty of Arts of the Veliko Tarnovo University, which hosted the event. Great credit for organising and conducting the Conference is due to Krasimira Drumeva and her team of students. They made the graphic design of the event and integrated all the activities of the forum. The Conference proceedings were published on CD (ISSN: 1313-4884).



Smilyana Marinova, at the exhibition Photocolor 4 in Sofia.

In December 2013, in partnership with the Technical University of Sofia, the fourth edition of the National Seminar 'Photocolor' was held. As a good tradition, an exhibition of photographs and art projects, based on the photographic plein-air held in June in Veliko Tarnovo and during the parallel cultural programme, was organised. The seminar proceedings and the artworks shown within the framework of the exhibition were published on CD in the series 'Photocolor' (ISSN: 1313-9509).



In 2013, two issues (No. 27 and No. 28) of the Bulletin of Color Group – Bulgaria were published. The informational website of the Association <http://bgcolorgroup.org/> is currently under construction and will be soon available.



In April 2013 CRSC became a Member of AIC, representing Canada once again in the world of colour. The news was communicated thus by AIC Executive Committee member Verena M Schindler: “‘Colour Research Society of Canada’ / ‘Société Canadienne de Recherche sur la Couleur’ has been accepted as an AIC regular member, thanks to the efforts of CRSC/SCRC président Doreen Balabanoff. Congratulations!”

The first half of the year was focused on funding and development of the American Synesthesia Association (ASA) conference, held 31 May to 2 June at OCAD University in Toronto. CRSC Board members Prof Doreen Balabanoff, Dr Robin Kingsburgh and Dr David Griffin secured funding from Canada’s Social Sciences and Humanities Research Council (SSHRC), and worked with the ASA to bring together a diverse group of international researchers, practitioners and synaesthetes to share knowledge across disciplines.



Doreen Balabanoff, Robin Kingsburgh and Carol Steen at ASA OCADU.

A series of special outreach projects entitled ‘Crossing Sensory Boundaries’ was developed by the CRSC. These included two working lunch sessions at the conference, Educational Insights, and Synaesthesia in Creative Practice; a pre-conference event for educators at the Art Gallery of Ontario (AGO); a ‘Music Visualisation’ workshop at University of Toronto Faculty of Music (MaHRC). Over 40 participants (both synaesthetes and non-synaesthetes) engaged in colour-response experiments cued to musical passages performed live by the renowned Gryphon Trio with violin, cello and piano plus guests on bassoon, trumpet, percussion and soprano. Workshop participants used both analogue and digital media (e.g. drawing/painting materials, computers or tablets) to generate immediate responses to compositions. An ongoing research project is continuing based upon the gathered data. The workshop was punctuated by lectures from leading researchers on sound-colour synaesthesia.

For ‘Crossing Sensory Boundaries’ free public programming events included ‘When Sound Meets Colour’, Walter Hall, University of Toronto, and ‘Sense Connections’ at OCAD University, including Prof John M Kennedy on ‘Drawing without Vision’ and ‘Harmonia’, a computer-generated audio-visual work of slowly shifting harmonics, by composer Christos Hatzis and animator Bruno Degazio.



In February CRSC member Kim Valenta gave a talk at the University of Toronto on vision in the context of conservation, specifically the issues surrounding disappearing lemurs – a topic near to her heart given her background in primatology.

The Evolution of the Eye and Colour Vision in Humans and Other Animals

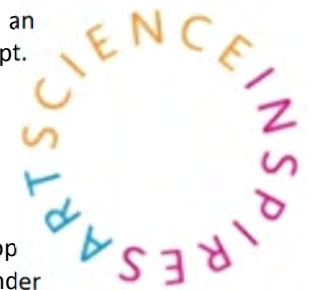


Lecture by Kim Valenta
(PH.D. Candidate in Biological Anthropology, UofT)

The CRSC Annual General Meeting was held on 16 December at OCAD University. CRSC announced its official registration as a National Non-Profit organisation. We held elections for the Executive Committee, in accord with CRSC statutes, welcoming Brian Funt (British Columbia) and Sharon Gitalis (Ontario), while saying goodbye to founding VP Glenn MacArthur. We discussed future planning and new website development; we saw a presentation on the history of the Canadian Society for Color in Art, Industry and Science (CSC) (1972-1990) prepared by Honorary Member and former AIC President and Judd Award winner, Dr Alan Robertson.

CRSC Member Dr Jayanne English, an astronomer and professor at the Dept. of Physics and Astronomy at the University of Manitoba, participated in a group exhibition: ‘Science Inspires Art: The Cosmos’ at the New York Hall of Science. She also gave a lecture and workshop entitled ‘Cosmos vs Canvas’ at Thunder Bay’s David Thompson Astronomical Observatory (March) and at Oxford University (July).

The CRSC/SCRC is truly delighted to be a new and revitalised Regular Member of the AIC, representing and supporting Canadian colour research.





The Chilean Colour Association (ACC) is where Chilean professionals and other interested persons find a place for discussion, research, and work in the field of colour. It has been a member of the AIC since 2009.

Members of the ACC participated actively in the AIC Congress:

1. 'A New Approach to the Debate between Color and Form in Relation to the Chromatic Circles and Models of the Nineteenth Century', by Ingrid Calvo Ivanovic.
2. 'One Island, Three Neighborhoods, Three Identities, Three Colors', by Elisa Cordero, Francisca Poblete, Marcia Egert.
3. 'Color, Material and Finishing: Methodology of Capture, Palettes Scheme, Colors Textures and Materials Apply in Industrial Design, Architecture and the Arts', by Maria Rosa Domper, who unfortunately couldn't attend the meeting.

Ingrid and Elisa also presented to the AIC community the progress of the organisation for the AIC2016 Interim Meeting, to be held in Santiago of Chile. At the closing ceremony of the Congress they invited everyone to come to Chile for the AIC2016 meeting (see page 49).

A colourful exposition in the 8° ENCUENTRO DE MAESTROS, CALLE DE LOS OFICIOS presented the best works of some students about the 'Visualization, Ordering, Palettes Configuration and Contemporary Applications of Pre-Columbian Colors, obtained from Andean Textiles from the



North of Chile'. This research project was part of the 'Materials and Color Combinations in Design Industry' class, lectured by María Rosa Domper at the School of Design, in the

Universidad Católica de Chile. The exposition was organised by the Corporación de Artes y Oficios de Chile (Chilean Arts & Crafts Organization) with the Consejo Nacional de la Cultura y las Artes (Chilean Arts and Culture Office), the Escuela de Artes Aplicadas (School of Applied Arts) and the Municipalidad de Providencia (Providencia Borough).

From March to July of 2014, the Chilean Colour Association worked together with third-year students and the teacher Marcela Parada from the 'Taller Calidad II' (Quality Workshop II) of the School of Design of the Universidad Católica de Chile in the requirements and design of some creative audiovisual inputs to present and promote the work of the ACC, and to increase membership. The students were grouped into three 'agencies', and each created a campaign of 3 audiovisual spots. They were named: 'Color isn't Make-Up', created by Carolina Carril, Ignacia Joannon and Javiera Prado; 'Color Matters', by Juliana Prieto, Francisco Reyes and Romina Valenzuela; and 'The ACC Brigade (Documental Action)' by Gabriela Acuña, Katherine Martínez and Vivianne Pérez.



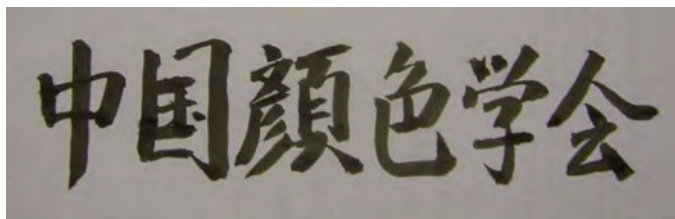
Creative audiovisual campaign for the branding of the ACC

From August to December, the Chilean Colour Association continued working with third year students and the teacher Ximena Ulibarri from the 'Taller Calidad II' (Quality Workshop II) of the School of Design of the Universidad Católica de Chile in the requirements for design of the AIC2016 brand and logo. The results of this workshop were 15 branding proposals, all very innovative and of good quality. Finally, the proposal of the student Francisco Mancilla was selected. The criteria of choice were based primarily on the richness and relevance of the figures and the colour palette. The chosen brand is versatile, and has great potential to be applied in several graphic modalities in a creative way and it's also easy to identify (see page 49). The new AIC2016 logo was presented to the AIC community at the AIC2013 closing ceremony.

Colour researcher and AIC individual member Ingrid Calvo Ivanovic has started in 2013 to coordinate a study group with students and lecturers of the Universidad de Chile. The aim of the StudioLAB is sharing knowledge about colour, developing research from the first years of study of a design career, and also supporting the inclusion of colour matters in the learning and teaching of Design. Currently there are 17 students participating in this StudioLAB. More information about this initiative can be found at its twitter account @colorlab_uchile.



Ingrid Calvo explaining colour harmony at the StudioLAB.



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

A delegation of more than twelve professionals from the universities and industries in China attended the 12th Congress of AIC held 8-12 July in Newcastle, UK. Several academic papers from China were presented at this conference, including 'Interrelationships of different image quality attributes for smart-phone displays', 'ICC color management from digital still cameras to displays based on self-made color chart', 'Research on color vision object tracking', and so on.



The 2013 symposium 'Color Science and Imaging Technology' of the Color Association of China, together with the annual COS conference.

The biennial symposium of 'Color Science and Imaging Technology' was held 15-18 August in Changsha of Hunan province, together with the annual conference of the Chinese Optical Society (COS). At this meeting, the presented papers involved different topics of colour vision, display technology, colorimetric characterisation of digital devices, colour-difference evaluation, colour appearance modelling, colour naming, colour gamut mapping, image colour processing, multispectral imaging, high dynamic range images, LED illumination engineering, impact of luminous environment on visual fatigue, OLED technology, colorimetry, and related applications of colour, imaging, and illumination.

The 2nd Cross-Strait Color Forum was held 26-27 July 2013 in Taiwan, with the theme of 'Application of color and light in life'. Experts from the mainland and from Taiwan visited the creative design centres in Taipei and exchanged academic ideas and

research achievements at the conference. The keynote speeches from the mainland side included: 'The development of color and fashion in China' by Ms Sha Zhu; 'Dependency of comfortable illumination upon photometric and colorimetric performance of LED' by Prof Haisong Xu; and 'The environmental forms of city colors' by Prof Hongyu Guo.



Ms Sha Zhu (left), Prof Haisong Xu (middle), and Prof Hongyu Guo (right) presented keynote speeches at the 2nd Cross-Strait Color Forum of 'Application of color and light in life'.

A team of more than ten delegates from China attended the 1st Asia Color Association (ACA) conference held 11-14 December in Thailand, with the theme of 'Blooming color for life' (see page 38). As the representative of the Color Association of China, Prof Haisong Xu gave an invited lecture on 'Color difference evaluation for digital images', and several oral presentations were made by Chinese participants, such as 'Study of Chinese traditional color names', 'Modeling image quality attributes based on image parameters for mobile displays', 'A method for HDR image rendering based on iCAM framework', 'Effect of polarization to directional surface color measurement', 'Research on the impact of light source spectrum on color vision', etc. This conference successfully provided a helpful platform especially for students and young colour scientists from China to communicate with the experts of Asia in the fields of colour science, engineering, design, and the colour industries.



Some participants from China at the 1st ACA conference of "Blooming color for life", held in Thailand.



Suomen Väriyhdistys, the Finnish Colour Association (FCA), was founded on the 24th September 2002 at the University of Art of Design Helsinki (now Aalto University School of Arts, Design and Architecture). The purpose of the association is to maintain collaboration and exchange of ideas between professionals in the field of colour, to further colour research and education and to promote good use of colour.

During 2012 and 2013 the FCA continued its international collaboration on many fronts. Close working with Swedish and Norwegian colour researchers continued within the SYN-TES colour research group. Harald Arnkil (president of the FCA until June 2012) participated in the AIC Mid-Term Meeting in Taipei, Taiwan, in September 2012, with a poster and as co-author in three oral presentations. There were also several Finnish contributions to the AIC2013 Congress in Newcastle. FCA's president Mrs Mirjam Martevo and vice-president Harald Arnkil participated in the general assembly.

In October 2012 the FCA invited its members to attend 'Colour and Light', a symposium on the epistemology and language of colour. The event was organised by the Dept of Art at the Aalto University School of Arts, Design and Architecture to mark the launching of the publication 'Colour and Light: Concepts and Confusions'. The main speaker at the event was Prof C.L. Hardin, the author of the long preface to the publication. Other speakers were Dr Karin Fridell Anter, former Associate Professor Ulf Klarén of Konstfack/University College, Stockholm, and the publication's editor Harald Arnkil. The book is one of the reports of the Nordic research project SYN-TES and is available free as a PDF download at <http://books.aalto.fi>. The symposium was repeated a few days later in Stockholm.



Interior of the Jugend-style Raahe Church in Western Finland.

In October Harald Arnkil took part in the jury of the Colour 13 competition for outstanding environmental colour design, organised by the Finnish Association of Painting Contractors (Suomen Maalarimestarien liitto) and the Finnish Fair Corporation. FCA board member Mr Lauri Niemi acted as secretary of the competition. The prizes, totalling 5000 euros, were handed to the winners at the opening of the 'Colour and

Surface' expo at the Helsinki Exhibition and Conference Centre on 13 November 2013. The competition attracted a number of very high-quality entries from architects, interior designers and colourists from all over Finland. The shared first prize went to Versta Architects for the Saunalahti School in Espoo and to Tapani Kaukonen and Jorma Teppo of the architect firm Jorma Teppo for the restoration of the Neo-Gothic interior of the Jugend-style Raahe Church in Western Finland.



Saunalahti School in Espoo, designed by Versta Architects.

One of the highlights of 2013 was the visit to Aalto University by Prof Semir Zeki of University College London, who is a world-renowned neuroscientist on primate and human vision, particularly colour vision. More recently, Prof Zeki has expanded his interests to neuroaesthetics, studying the relationship between brain activity and aesthetic appreciation and artistic creativity. He came to Finland on the invitation of Aalto University to participate in a series of seminars entitled Brainy Days, organised by the Aalto Brain Centre (ABC). His talk, 'The Neuroscience of Beauty', given on 25 November at the Hanasaari Finnish-Swedish Cultural Centre in Espoo, discussed the possibilities of neural mapping of experiences of beauty and ugliness with the latest methods of brain scanning.



Harald Arnkil published 'Colours in the Visual World'. This is a textbook for students of art, design and architecture, updated and revised from the Finnish edition of 2007. He also gave a talk entitled 'Sounding Colours – Correspondences of Painting and Music' in a series on colour, organised by the Finnish Cultural Foundation's Kirpilä Art Home. His article 'Music, Painting, Colour and Abstraction' continued in the same vein. It was published in Resonant Image, an exhibition catalogue on the works of three painter-musicians, Tapio Lötjönen, Juan Antonio Muro and Tapani Tamminen who exhibited at the Rovaniemi Art Museum at the end of 2013.

The main communication channel of the FCA, its Internet site at www.svy.fi was thoroughly revised during 2013, making it more accessible and usable for members and non-members.



The Centre Français de la Couleur was created in 1976 and is the French representative of the AIC. CFC is, above all, a centre for the exchange of ideas, on a national and international level, 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: seminars, colloquiums, publications, web site, etc. Newsletters about colour activities and events are frequently produced.

As every year, we organised our Annual Colour evening 15 June in JAElys Institute, Paris. Interventions: Guy Lecerf, «Coloration urbaine: essai de topétique chromatique dans le bâti collectif»; Lionel Soulié, «La création de l'identité chromatique d'un nouveau quartier»; France Lavergne-Cler, «Travailler les ambiances chromatiques dans les espaces urbains»; Nathalie Junod-Ponsard, «Des oeuvres de lumière qui modifient la densité des espaces»; Exhibition, François Bossière.



CFC member Larissa Noury presenting her art exhibition 'Tactile Light of Colour' at the AIC 2013 Congress in Newcastle.

In July CFC participated in the AIC Congress in Gateshead, UK: Michel Albert-Vanel, «Application of the Planetary Colour System»; Patrick Callet, Kyprianos Kountouris, Philippe Denizet, «About the Colour of an Antique Cypriot Bronze, Modeling, Computing, Moulding and Casting»; Remi Cerise, Patrick Callet, Frederic Magoules, Jerome Johnson, Nathalie Le Gonidec, «Medieval Glass and Natural Lighting Rendered by Spectral Simulation»; Larissa Noury, «Color, Art and Fashion»; Michel Cler, France Cler, Verena M Schindler, «Chromatictownscape – Colour Concepts for Urban Space: Case Study of Neyron».

CFC members were also invited to many events in France and worldwide to give lectures, organise exhibitions (such as «Croque Couleurs», an exhibition for children in Villeneuve d'Ascq), interviews and to present their work (Annie Mollard-Desfour, Laurence Pauliac, Anne Varichon, Bernard Valeur, A. Grand-Clément, G Lecerf, M Jacquot, Patrick Callet, Martine Lafon, etc). Numerous interviews (radio, television, print media) promoted the CFC (France Inter, France Culture, etc).

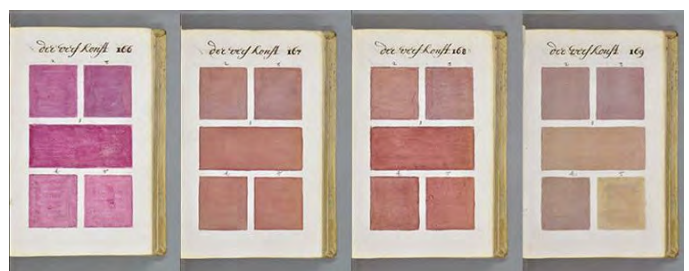


CFC members produced the following publications in 2013:

- Primaires n° 173 *Couleurs sensibles* (editorial and publication directors: Annie Mollard-Desfour and Laurence Pauliac) was republished. <http://www.cf-couleur.fr/primaires.html>
- *Vert et orange: deux couleurs à travers l'histoire*, supervised by Denise Turell, PULIM, déc. 2013. With articles from several members of CFC: Annie Mollard-Desfour, introduction: «Orange, vert... Deux phénomènes chromatiques et culturels entre héritage et révolution», Denise Turell, «Le safran au XVIe siècle: la couleur du mépris»; Marie-Cécile Bauchet, «Le vert et ses résonances médiévales à l'écran».
- Michel Albert-Vanel, *Spiritualité de la couleur*. Color Messenger, janvier 2013.
- Barbara Blin-Barrois, *Vert, Eyrolles, Carnets de couleur*, août 2013.
- A. Mollard-Desfour, *Le Bleu. Dictionnaire de la couleur*. Mots et expressions d'aujourd'hui, completely updated new edition, CNRS Éditions, juin 2013.
- Jessie Martin, *Le Cinéma en couleurs*, Armand Colin, oct 2013.



Some of our artist members also had exhibitions showing their work (Nathalie Junod-Ponsard, Martine Lafon, Larissa Noury, François Bossière...).



Described as the Pantone book of 1692, «*Traité des couleurs à la peinture*» was digitised in 2013, and all 898 pages are at: <http://www.e-corpus.org/notices/102464/gallery/>. The original book is in Les Manuscrits de la Bibliothèque Méjanes, Aix-en-Provence.



The 39th Annual Conference of the DfwG was held 8-10 October at TU Ilmenau. The afternoon of the first day was filled by meetings of the DfwG working

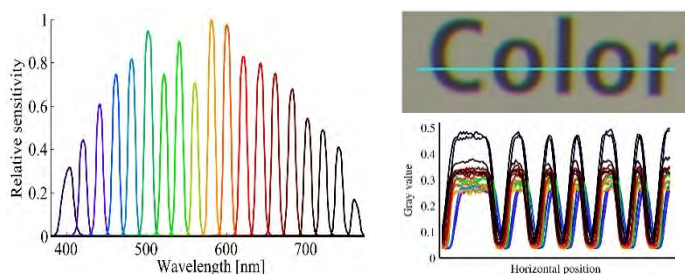
groups 'Fluorescence' and 'Multigeometry Colour Measurements and Industrial Colour Tolerances'. On the morning of the second day the DfwG working groups, 'Colour Image Evaluation' and 'Colorimetry', continued their committee work. Here Klaus Richter reported on the CIE Division 1 meeting 'Vision and Colour', held in Leeds, 5-6 July (see page 46).



Delegates at the DfwG Annual Conference in Ilmenau.

In the afternoon the paper portion of the DfwG conference started with Peter Bodrogi's paper 'Semantic Interpretation of the Colour Rendering Index as given in the actual CIE Definition of 1995'. Felix Kimme reported on his work 'Optimized Spectra for Flash Applications'. New approaches on 'Determining the Threshold Values of Colour Differences for self-luminous objects' were explained by Guido Kramer.

Papers in the measurement session started with 'xD-Reflect - Multidimensional Reflectometry for the Industry' by Andreas Höpe, followed by Julie Klein with 'Goniometric Recordings with a 19-channel Multispectral Camera'. Maria-Teresa Hussels concluded the day with her report on 'Bi-spectral Characterization of Fluorescent Reference Standards and Penetration Test Materials for Crack Detection'.



(left) Relative sensitivity of the 19 channels of a multispectral camera; (right) Wavelength-dependent lateral chromatic aberration across the black letter forms. (Julie Klein, RWTH Aachen)

Along with the oral contributions, four posters presented 'Test methods to determine Colour Vision and Colour Discrimination to evaluate the "Test Instrument Man" in Quality Control' (Renate Wolber), 'New Poster Series with practice related to the Fundamentals of Colorimetric and Colour Measurements'

(Renate Wolber), 'Spectroscopic Procedures to characterize Fluorescent Materials' (Bernd Muschik) and 'Semantic interpretation of Colour Binning' (Peter Bodrogi). During the annual assembly the new DfwG board was elected: Prof Bernhard Hill (Aachen) as President, Prof Christoph Schierz (Ilmenau) as Vice-President, Dipl.-Ing Frank Rochow (Berlin) as Secretary, and Dr Carsten Steckert (Berlin) as Treasurer.

Delegates enjoyed a guided walking tour on the evening of the second day through the city of Ilmenau, where Goethe spent some time. He is particularly associated with the peak of Kickelhahn in the Thuringian Forest, southwest of Ilmenau, where in 1780 he wrote a poem 'Above all summits is rest' in pencil on the wall of a wooden cottage. Goethe made a deeply sentimental last visit to the cottage in 1831.



Statue of Johann Wolfgang von Goethe in the Marktplatz in Ilmenau.

The third day of the conference started with Marvin Boell's 'Adjustment of cold-white light at 5200K for illumination of white planes', followed by Konrad Scheurmann with 'Historic-critical Analysis of the Materiality and cultural Coding of Colour'. Andreas Kraushaar talked about 'Media-relative Colour Reproduction - Motivation and Implementation'. As an adjunct to the world of automobiles, Christian Dietz demonstrated 'That dulls the paint! Matting Experiments'. Klaus Richter presented 'Visual device independent RGBE and NCE Colour Data for Ostwald Colours according to CIE R1-47:2009 and CIE R1-57:2013'. Frank Rochow reported on the AIC Congress 2013 and Werner Rudolf Cramer gave the final talk 'Colour Psychology - a scientific approach'.

The DfwG is looking forward to celebrating its 40th anniversary in 2014. The Deutsches Farbenzentrum (DFZ) held a Development Workshop 'Colour as Experiment' in Wuppertal 25-27 September. The result of this was a concept to hold the next Colour Conference of the DFZ in 2014 and to invite the DfwG and other Colour Groups to have a joint meeting, after years of meeting separately.





After meticulous planning and organisation spanning four years, the 12th AIC 2013 Congress was held from 8–12 July 2013 at The Sage, Gateshead, Newcastle, sponsored by the Colour Group (GB). It was the pinnacle of the year's activities of the group as well as of AIC. The General Co-Chairs were Lindsay MacDonald (University College London) and Stephen Westland (University of Leeds). The event brought together

specialists in different fields of colour research and application from all over the world. A total of 622 participants attended. The congress proceedings, published in English, amounted to 1,834 pages spread over 4 volumes (see pages 11–12).

The year also saw another international event partly sponsored by the Colour Group (GB). This was the introductory session of the 22nd Symposium of the International Colour Vision Society (ICVS). It was held in July at Winchester University and the keynote lecture was given by the contemporary artist, composer and cyborg activist Neil Harbisson.



Valerie Bonnardel, new Chairman

A third international event in which the Colour Group participated was the joint meeting with the Gruppo del Colore of Italy, the IX Conferenza del Colore, at the Università degli Studi di Firenze in September (see page 27). Our links with the French Federation of Colour were also reinforced by the session in April on 'Colours in India', held at the City University, London.



The Hindu deity Ganesha is widely revered as the remover of obstacles, patron of arts and sciences, and the giver of wisdom.

Despite the intensity and the number of demands which the Congress and the various international events placed on committee members of the Colour Group, they maintained the regular monthly activities. The tradition of the Palmer and CRS

sponsored lectures was continued at the Colour Vision Meeting, a whole day event in January. The Palmer lecturer was Prof John Barbur, who elucidated the question of how well the variability in human colour vision can be described, while the CRS lecture on the implications of separating colour and colour contrast was delivered by Arthur Shapiro.

The March meeting was another all-day event, the venue this time being Pembroke College, Cambridge. The meeting was concerned with the colour cues to material properties and the subjects of the presentations varied from iridescence in bird plumage to the application of colour in late-Medieval and Renaissance Europe polychromatic sculpture.

At our February half-day session, the Turner Medal of the Colour Group was awarded to the internationally renowned textile artist and colourist Kaffe Fassett. His lecture 'Glorious Colour' attracted a large audience of 115 people. Well attended also was the October



Kaffe Fassett, recipient of the Colour Group's Turner medal in 2013.

meeting at which the recipients of the Palmer and CRS awards presented their works. The meeting on 'Blue Light: Benefits, Hazards and Sensitivities' in November proved to be extremely popular, with seats being at a premium. Some of the participants did not mind having to stand for the entire length of the meeting, perhaps aided by the stimulus of blue light.

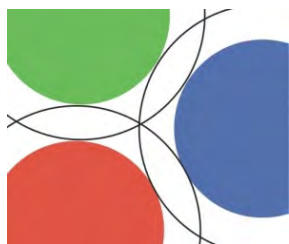
The final December meeting, entitled 'The Colour Group Christmas Caper', was hands-on experimentation with spinning colour wheels and paints, held at the improbably named *Colour Makes People Happy Store*, London.



Andrew Stockman experimenting with the practical realities of seeing red.

The annual accounts and future strategies of the Colour Group were discussed at the formal Annual General Meeting of the organisation in May. The highlight of the event was the outgoing Chairman's address. Prof Andrew Stockman discussed 'Why are the new CIE colour matching functions "physiologically-based" and the old ones not?'

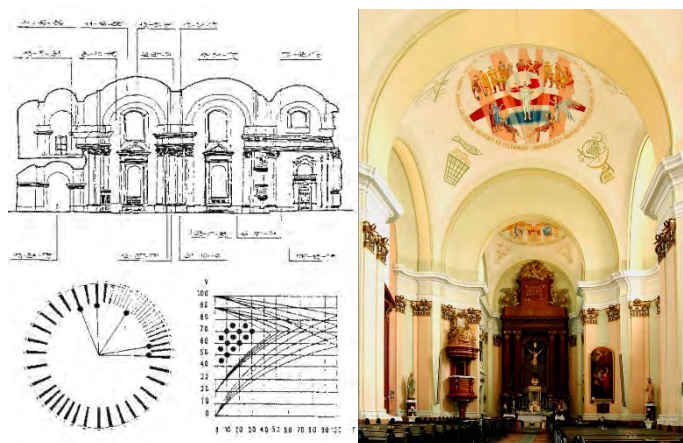
The intense and varied programme delivered by the Colour Group this year, together with an active marketing and outreach programme, resulted in a spectacular increase of the membership by 82%. This inevitably adds brightness to our colourful hopes for the future of the Group.



The Hungarian National Colour Committee was founded in 1969. Its professional societies are still working continuously, dealing with colour visualisation, colour vision, colour environment design, visual arts, industrial application of colours, measurement of colour, synaesthesia and colour aesthetics. Members of the HNCC have produced numerous research reports, series of educational and scientific lectures and organised many exhibitions.

As part of the 12th AIC Congress in Newcastle, HNCC organised a Symposium entitled 'Colour Harmony from Perception to Built Environment'. The theme spanned three successive levels of colour harmony: perception, human habits and environment, in a paper by Antal Nemcsics, which was read out by Robert Hirschler because of the illness of the author.

During 2013 the different divisions of the HNCC organised conferences and professional lecture series at the Budapest Technical and Economical University, at the House of Illumination, at the seat of the Association of Hungarian Artists and Industrial Artists, at the Chamber of Architects. The 24th Symposium on Coloristics was held in Veszprém. The lectures dealt with the following topics: results of recent investigations in colour vision, illumination in museums, design of illumination in apartments, laws of colour harmony, the role of colours in the beneficial appearance of our built environment, colour in multimedia and virtual environments, biological and medical aspects of light and colour, applied colour metrics in industry. Lecturers included: Tamás Megyes, László Miskei, Ferenc Szabó, Ákos Nemcsics, János Schanda, Antal Nemcsics, Béla Tilles, and Ms G Wenczel. Industrial artist and architect members of HNCC organised a nationwide exhibition on the topic of the expressive force of colour.



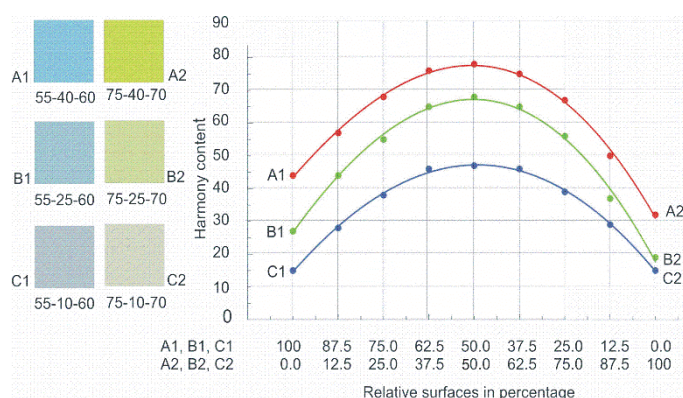
(left) Architectural colour design with the Coloroid diagram and
(right) Interior of a church built with colour design (Tata).

Members of CIE-MNB are working in eight Technical Committees, and in 2013 a number of professional lectures and other CIE-related events were organised. The Hungarian Academy of Science has established the File of Hungarian Scientific Works gathering publications of researchers with academic degree. This file contains more than 1,000 publications of 25 HNCC members.



Introduction of the book 'Colour and Sacrality'
at the Christian Museum in Esztergom.

An article was published in the online issue of *Color Research and Application* 'Experimental determination of laws of colour harmony, Part 8: The relative surface coverage of colours versus harmony content' by Antal Nemcsics and Jenő Takács, presenting new experimental results.



Experimental results showing that harmony content of composition colours depends on their relative surface coverage. The planes of the colours are declining to each other by 130 Degrees in Coloroid space.

The book by Antal Nemcsics *Colour and Sacrality* has also been published in both Hungarian and English. It analyses the differences between sacral space and liturgical space and between sacral colours and liturgical colours, using more than 100 figures to illustrate the concepts.



Works by Antal Nemcsics on display at the exhibition in Esztergom.



In 2013, the Associazione Italiana Colore promoted activities about colour in Italy in many different ways.

The annual conference was held in September at the University of

Firenze, organised by Marcello Picollo, Giovanni Pratesi and Maurizio Rossi. It was also the first meeting joined with the Colour Group (Great Britain). More than 200 persons participated with 59 oral and 87 poster presentations covering many different topics about colour. Invited speakers were John Barbur (City University London), John Mollon (University of Cambridge), Marisa Rodriguez-Carmona (City University London), Boris Pretzel (Victoria & Albert Museum, London) and Maria Michela Sassi (University of Pisa).

In September 2013, our members Walter Arrighetti, Federico Pierotti, and Alessandro Rizzi collaborated to organise the workshop "Chroma" in Florence. In that event, theoretical and practical discussions about colour imagery between motion pictures and media were performed.

We gave patronage to the first edition of the Colour Design & Technology master programme organised by the Poli.Design consortium of the Politecnico di Milano, in collaboration with the University of Milan, which will commence its lessons on March 31st 2014. In order to promote this exciting new course we organised four one-day open seminars around Italy themed on various aspects of colour:

- (1) Milan: contributions on fundamentals of colour perception (Maurizio Rossi), measurement of colour and data report to customers (Maurizio Messa, Konica-Minolta), colour design for product (Francesca Valan), colour and emotions (Renata Pompas), and colour optical illusions (Osvaldo Da Pos).
- (2) Bari: started with a dissertation on colour and marketing (Bepi De Mario) and continued with digital representation of colour (Andrea Siniscalco), fundamentals of colorimetry (Maurizio Messa), colour in urban planning (Aldo Bottoli).
- (3) Parma: multisensory process and the ability of colour to influence customer choices (Nicola Bruno), OSA-UCS colour system (Claudio Oleari) and comparison with NCS (Osvaldo



A practical demonstration during the seminar on colour in Bari.

Da Pos), perception of colour in infants and hints on colour design for kindergarten areas (Francesca Valan), and the use of colour for building requalification (Giulio Bertagna).

- (4) Milan: contributions on colour in architecture (Arturo Dell'Acqua Bellavistis) and design (Lorenzo Morganti), colour as a design component (Mario Bisson), and exercises of lateral thinking (Lia Luzzatto).

Finally we organised jointly with the Poli.Design consortium, a course about the use of the Munsell System for product Design (in partnership with Konica Minolta, X-Rite and Pantone) in December. The theme of the workshop was related to food. The course was led by Claudio Oleari, who introduced the basics of colorimetry and the Munsell System, with Stefania Perenich and Francesca Valan who supported the participants in the application of the Munsell System on actual samples of the most important ingredients of Italian cuisine which were measured, encoded, mapped and then eaten with gusto.



Participants of the GdC IX Colour Conference in Florence, 19-20 September 2013.



2013 Annual Meeting

The 44th Annual Meeting of the Color Science Association of Japan (CSAJ) was held on 25–26 May at Waseda University in Tokyo. About 370 participants attended and 90 contributed papers from various fields of colour science and design were presented. We highlighted cosmetics and colour science as a special topic of this meeting. The day before the meeting opened, the pre-event symposium 'Multi-modal interaction from the standpoint of colour research and its development in cosmetic science' was held with six speakers from visual science, psychology, image engineering, cosmetic research and marketing. On 25 May, a special session 'Cosmetics and color science' was organised with 8 papers including multispectral image analysis, evaluation of the appearance of facial surface and optical properties of cosmetics. Prof Syuji Hashimoto, who is the vice president of Waseda University and a professor at the Faculty of Science and Engineering, gave a special lecture "Can we create a robot with a mind?"

The CSAJ Presentation Encouraging Prizes were given to Dan Tagawa (Chiba Univ.) 'Color rendering evaluation of LED light sources using corresponding color', Ken Tamagawa (Chiba Univ.) 'A transfer method of painting features to digital photographs', Kosuke Mochizuki (Shinshu Univ.) 'Estimation of spectral reflectance of silk fabrics and its 3DCG reproduction', and Gensei Yoshimura (Chiba Univ.) 'Spatial control of dimmable LED lighting system'.



Special Session on cosmetics and color science

The 1st Autumn Meeting of the CSAJ

The CSAJ started a new nationwide meeting in autumn to provide an opportunity to present the latest outcomes of colour studies and to activate local groups of the CSAJ. The 1st Autumn Meeting was held on 15–17 November in Kurashiki, Okayama Prefecture. More than 120 people attended and 32 contributed papers were presented. Special lectures were given by Prof Yasutsugu Ueda (Notre Dame Seishin Univ.) and Mr Yasunori Nakamura (Kurashiki Machiya Trust). They talked about the history of the Ohara Museum of Art and preservation of the traditional area of Kurashiki city.



The Bikan Historical Quarter in Kurashiki

Four study groups participated in the Autumn Meeting. The study group on 'Color vision' opened with a tutorial lecture given by Prof Keizo Shinomori (Kochi Univ. of Technology). The study groups 'Colors in living environment' and 'Foundations of environmental color control in Japan' held workshops showing their activities. The study group on 'Color design' organised a visit to the Ohara Museum of Art and a lecture on the works in the museum. The CSAJ Presentation Encouraging Prize was given to Akiko Fukui (Kyoto Univ.) 'Effects of hue and time on color adaptation in a space illuminated by colored light'.

Awards

6th CSAJ Research Award: Hyojin Jung, Saori Kitaguchi, Tetsuya Sato (Kyoto Inst. of Tech.) 'The cognition of white paper and the possibility of the prediction of the color tolerance of recycled paper', *Journal of the Color Science Association of Japan*, 36(1), 27-35, 2012.

17th CSAJ Research Encouraging Award: Ken Nishino (Toyohashi Univ. of Tech.) 'Optical implementation of spectral filtering for the enhancement of skin color discrimination', *Color Research and Application*, 37(1), 53-58, 2012.

Publications

The CSAJ published six issues of the *Journal of the Color Science Association of Japan* in 2013. Fourteen original papers and a number of feature articles were published.

Upcoming Meeting

The 45th annual meeting of the CSAJ will be held on 23–25 May 2014 at the Kyusyu University in Fukuoka. The 2nd Autumn meeting will be held on 14–15 November 2014 in Shimizu, Shizuoka Prefecture. Preparations are well in hand for the AIC 2015 TOKYO conference on 'Color and Image', which will be held on 19–22 May 2015 (see page 48).

Local Chapters and Study Groups

Three local chapters in the Kanto, Tokai and Kansai areas worked actively and organised several meetings throughout the year. A new study group on 'Cosmetic, skin and facial studies' was established.



The Korea Society of Color Studies (KSCS), originally founded in 1988, conducts several activities annually. We publish the academic journal four times a year and hold academic conferences in the spring and in the fall. Besides these academic activities, we also host the annual Korea Color Awards. The KSCS selects the best practice or research in colour from each field that produces the best product or effect on the environment. In addition, we hold the annual International Invitational Exhibition, for which we invite excellent foreign artists to exhibit their beautiful world of colours. Along with these annual activities, we hold a spring seminar, an international symposium hosted by the educational division of KSCS, and a photography competition with the theme of colour.

Academic Conferences

The spring conference was held in June with the theme, 'Culture, Restoration and Color'. Dr BonSoo Park, the keynote speaker, gave a special talk about the royal decorated painting and folk arts in the Lee Dynasty (1392-1910). His talk provided an opportunity to learn about the beautiful and elegant royal painting and to understand its hidden meaning.

The fall conference was held in October with the theme, 'Color – Art and Science'. Prof ChangRim Jeon at HongIk University gave a special talk about Consilience of Art and Science. He is the author of *The Chemist at the Art Gallery* which was selected as an outstanding book by the Korean Ministry of Education, Science and Technology.



KSCS Fall Academic Conference 2013

Spring Seminar and International Symposium

The spring seminar was held in March at Ewha University with theme of 'Green Scape'. Mr JeongYoon Kim from Office Kim & Park and Prof YongHoon Son from Seoul National University gave a talk about 'Landscape and Color'. The International Symposium organized by the educational division was held in August. The symposium's main subject was 'Prospect of Color in City Environment'. Prof JinSook Lee from Chungnam National University, Emeritus Prof DonSeo Park from Aju University, and Yoshida Shingo from Japan were invited as guest speakers.

11th Korea Color Awards

The 11th Korea Color Awards were aimed to boost the colour industry and its professionalism. The best of show, which is an Award from the Minister of Trade, Industry and Energy, was given to the Whistling Rock CC's 'The Ball; Another Whistling Rock'. The second prize was shared by Younglim Forestry's 'Door and Moulding Color Plan' and Mr EunBae Moon's book entitled 'Korea Traditional Color'.



Exhibition of the 11th Korea Color Awards, COEX in Korea

International Color Exhibition 2013

Artists from 16 countries participated in the exhibition and 134 works were displayed at the Design Gallery at Sangmyung University. The winners of the Color Works were Prof NamHo Kim from Korea, Gabriel Fecher from Germany, Motofumi Misaka from Japan, and Pritam Protalochan from India.



(left) Brochure cover of the International Color Exhibition 2013;
(right) Professor NamHo Kim's winning artwork.

Participation in the 2013 AIC Congress

Several KSCS members including the President of KSCS, GyungSil Choi at Ewha University, and the Chair of 2017 AIC Jeju Congress Organising Committee, JinSook Lee, participated in the 2013 AIC Congress held in Newcastle. These KSCS members actively promoted the 2017 AIC Jeju Congress to raise awareness and to ensure its success (see page 50).





AMEXINC, founded in May 2005, is a Mexican organisation that promotes colour in interdisciplinary researches, exchanging expertise and applications among different areas and contributing to the cultural diffusion of colour in Mexico. AMEXINC membership includes more than 30 professionals of different specialties: psychologists, physicists, graphic designers, home designers, architects, and teachers. The first President was Dr Georgina Ortiz. The current President is Dr Carlos Aguirre, who will complete his term of office in October 2014. AMEXINC was accepted as an AIC member in 2007 and will organise the AIC2014 Interim Meeting in Oaxaca.

Georgina Ortiz and Alfonso de Lucas organised at different schools of UNAM discussion panels about International Color Day on 21st March 2013. Many Facebook followers interacted with us for celebrating colour. Angela Alba and Carlos Aguirre offered the workshop: 'Color Foundations' as a preliminary course for specialist courses in the colour area. Six participants received information about the physical and artistic principles underlying colour science.



AMEXINC President, Carlos Aguirre, congratulates Renée Aguilar, one of the participants of the workshop 'Color Foundations'.

An agreement with one of the most important universities in Mexico, Instituto Politécnico Nacional, will make it possible to offer specialisation courses in colour topics in 2014. This fact is important because no high school education in Mexico offers this kind of training workshop. It is planned to offer four modules: 1. Foundations; 2. Dyes, colorants and colorimetry; 3. Color management; and 4. Color and personality. The length of each course will be 30 hours, during 5 weekends.



Runners dance and cheer during the festival after the Color Run on 29 September 2013 in Guadalajara.

An exciting phenomenon that came to Mexico in 2013 was The Color Run, a five kilometre fun run inspired by the Holi religious festival in India. The runners begin dressed in clean white T-shirts, and pass through a colour station every kilometre, where volunteers shower them with dyed cornstarch out of spray bottles. The colour is non-toxic, approved for use in food and cosmetics. More than 5,000 runners participated in the event in Guadalajara City in September.



Apps for smartphones for colour selection and mixing, featured on the AMEXINC website at www.amexinc.mx

The AMEXINC President, Carlos Aguirre, and Nallely Rangel (member) attended the AIC 2013 Congress in Newcastle, in order to promote the participation for the forthcoming Interim Meeting AIC2014 in Oaxaca (see page 47).

All persons interested in colour written in the Spanish language can find interesting information, news and nice pictures in Twitter and Facebook. Please follow: @AMEXINC1 and Facebook/AMEXINC. Our web site is at: www.amexinc.mx

Kleur. & visie

Museum we organised a special symposium about the transformation process of a colour starting from the (ancient) Egyptians up to and including 'green jeans'. In this symposium representatives from the scientific world, the paint industry and art history presented a range of interesting views. Ninke Bloemberg, the curator of the Blue Jeans exposition, explained the rationale and research method on which the exposition was based. According to her the Netherlands is a typical 'jeans country'. There is not another country in this world where wardrobes are so overloaded with jeans as here. The average number of jeans amounts to 1.82 per Dutch(wo)man. Unlike Belgium and France, which use the international nomen 'jeans', we even have our own domestic name for this phenomenon: 'spijkerbroek'. Never before in our country, and perhaps neither worldwide, has there been a desire for jeans and denim on such a large scale. That's why an exposition about the history of the current jeans culture was necessary.



The keynote lecture was by Jenny Balfour-Paul, a scientist who has travelled all over the world to collect data about indigo and has gained much practical experience about different ways of working with indigo. Her lecture covered a fascinating voyage through time and remote cultures. Because the chemistry of indigo until recently was unknown, the dyeing process was surrounded by a lot of magic. AkzoNobel decided to choose royal blue as the Colour of the Year 2013. Odet van Winsen, Marketing Manager of Decorative Coatings, described the Flexa colour trends. A poster by Maarten van Bommel showed the results of research on a fragment of ancient textile, discovered in an Austrian salt mine near the town of Hallstatt, originating from the bronze age. Various dyes were found in the fibres, the majority being woad, the European variant of indigo.

The symposium LET'S MEET! was held in March in Arnheim and dealt with the influence of colour in the semi-public areas of the modern city. What is the effect of colour on our perception, our well-being and comfort? How can users, planners and designers consciously deal with the ever-changing colours in public living environments? How can we devise a harmonious, sparkling and functional palette of colours and materials, while at the same time giving attention to the overall image of the outdoor space? We organised this event in cooperation with the Foundation of Outdoor Colour.

An introduction was given by Mariël Polman, doctor/ architectural engineer, specialist in Colour and Paintings at the Governmental (National) Service for Cultural Heritage, program-coordinator and teacher of Historical Inner Spaces for the training course Conversation and Restoration at Amsterdam

University. Colour is an important aspect in the architecture of the new style of building. Yet in historiography the direct perception of buildings as well as the transfer of knowledge has often been missing. Was the application of colour in the past a conscious choice made by architects or was colour rather a derivative, playing their game of shapes and dependent on their choices in applying new materials?

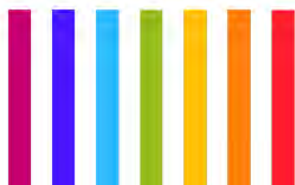
In our visually orientated society, sensual qualities like feeling, listening and smelling are being left behind. Consequently the experiencing (sensing) of buildings threatens to fade away. In the book 'Architecture through other Eyes' a more sensory architecture is advocated. Bastiaan van de Kraats (architect, Foundation Silver Gray), initiator and compiler of the book shared his experiences with us. Well-known buildings in the Netherlands are being examined by blind people and then recorded in audio documentaries. The book also contains a manual for inclusive design, for all senses and all people.



How can you perceive architectural space when you cannot see it?

Chief guest speaker Gerard Loozekoot, director and senior architect at UNStudio, based on recent projects and design studies, commented on research regarding the added value of colour, which is being conducted by UNStudio. As a result of the scale on which colour is being operationalised and the targets being pursued, colour is taking on a new meaning and importance. A relationship is being established between Arnhem as a fashion city and other fashion cities in the world where applying colours is part of the agenda for the urban fabric. Other speakers were: Cilia Erens, planologist and interdisciplinary sound artist; Rob van Maanen, colour specialist and advisor in urban development projects about colour as an instrument of urban building and architecture; and the city psychologist, Sander van der Ham.





Associação Portuguesa da Cor (APCOR) was created in 2003 within the context of the Faculty of Architecture at Lisbon Technical University's Master Course 'Colour in Architecture'.

APCOR is the Portuguese representative of the AIC. 2013 was an important year for the association, which has grown in membership and elected on 25 May a new Board for the next five years.



APCOR board members at AIC 2013 in Newcastle (left to right): Fernando Moreira da Silva (Director), João Pernão (Vice-President), Margarida Gamito (President) and Cristina Pinheiro (Secretary).

This new Board proposes to improve the visibility of APCOR in Portugal and at international forums dedicated to colour. Better interaction with members, through various means of communication such as seminars, publications and media (Facebook page, blog, etc), was also proposed as an important goal for the association. While the APCOR web site (www.apcor.org) has all the institutional information, the Facebook page (www.facebook.com/apcor.org) and the blog (<http://apcor.blogspot.pt>) are intended for a more dynamic update, allowing faster dissemination of colour news.

A mission from APCOR attended the AIC 12th Congress in Newcastle, including the newly elected members of the Board. Beyond the presentation of their own work at this event, they presented themselves to the scientific community under their new roles. The Portuguese participation was very significant: 12 of its members presented 18 communications (papers and posters). Also during this meeting Prof Maria João Durão, the founder and first president of the APCor, was elected a member of the Executive Committee of the AIC (2014–2015) by majority, becoming the first Portuguese representative in this important international association.

APCor has established a Protocol with APCen – the Portuguese Association of Scenography – in order to exchange knowledge and promote a common participation in events concerning the objectives of both institutions. Following this goal, APCOR participated in SCENA 2013: International Meeting of Scenography. Colour and light were discussed in their transdisciplinarity and theoretical principles were applied in a workshop where theatrical backdrops were painted.

In May, a book from our founder member, Fernando Moreira da Silva, was released: 'Colour and Inclusivity: A Visual Communication Design Project with Older People'. The book presentation was conducted by Prof Marcus Ormerod from the University of Salford, UK, and Prof Maria João Durão.



Marcus Ormerod and Maria João Durão at the book presentation

Dr João Pernão, Vice-President of APCOR, developed a colour study for a secondary school in Lisbon, designed by CVDB Architects, that won the 2013 WAN (World Architecture News) Award for Educational Building, being commended by the jury for "the very clever use of colour".



Decorative scheme for Braamcamp Freire Secondary School in Lisbon.



Colour and scenography intermingled at SCENA 2013.



In March 2014, within the framework of our annual meeting, we elected new leadership: Sabina Bračko PhD, from the University of Ljubljana as President, Marta Klanjšek Gunde PhD,

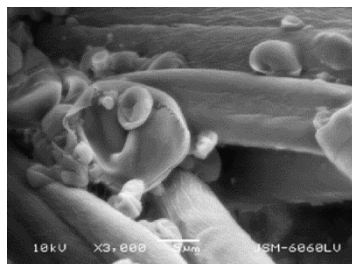
from Chemical institute Ljubljana as Vice-President, and Vojko Pogačar from University of Maribor as Vice-President. Moreover, we are proud to present (below) some extraordinarily active members in the past year:

Member	J	C	M	PL	EBJ	P
Marta Klanjšek Gunde	8	8	2			
Gorazd Golob	6	9			1	
Bojana Vončina	5	7	1	1		
Tadeja Muck	2	8	1			2
Sabina Bračko	4					
Darinka Fakin	4	4	1			2
Matjaž Kunaver	2	4			3	
Marija Gorenšek		3				
Boris Sluban	1	1		2	1	
Vojko Pogačar	1	3	1	5	1	

J- Journal, C- Conference, M- Monograph, PL- Public Lectures, EBJ- Ed. Board of Journal, P-Patent

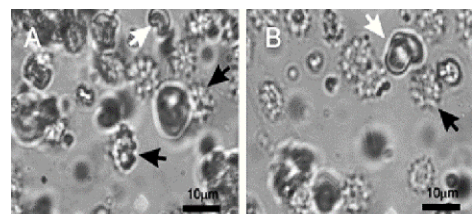
The impact of photochromic (FC) dyes – Mateja Kert, PhD

At the 44th Symposium on Novelty in Textiles, held in June 2013 in Ljubljana, two research studies were presented: 'The influence of textile care process on photochromic effect of commercial photochromic dye on textile' and 'The influence of commercial photochromic dye on blood cells'.



SEM micrograph of cotton fabric with microcapsules of FC dye after washing at 40°C at 3000x magnification.

In comparison with dry cleaning and wet cleaning processes, washing decreases the colour difference value, which can be detected as lower intensity of the colour after exposure of the fabric to UV light. According to the results of the second research study, it can be concluded that FC dye has no influence on the form or the number of erythrocytes at lower FC dye concentration, and that the influence of the FC dye on blood cells depends on dye concentration.



Suspension of erythrocytes after immediate (A) and after 24 hours (B) addition of microcapsules of FC dye.

Future activities: Colour babbling heralds need for education

Slovenia has about two million people and covers an area of more than 20,000 km². This 'mini mundus' hides one of the most diversified biotopes of flora and fauna in the world! In this territory are intertwined Alpine, Pannonian and Mediterranean cultural influences, connected between Italy, Austria, Hungary and Croatia. All this mixture of influences is reflected in the typology of building and colouring of façades. In addition, Slovenia has a high proportion of home owners (about 77%), which further increases the diversity of façade colours.



This traditional house (Gančani) is now painted by blue Galico, but more often white lime was used, with black ash in the bottom edge.

However, traditional architecture in recent decades has increasingly been displaced by modern building, without retaining a proper visual identity. This confusion is often seen in the intense colours applied to exteriors and façades, creating the impression that the landscape is becoming polluted with 'colour babbling'. For this situation, there are several reasons. Certainly large and seductive offers of exterior house paints have caught our residents completely unprepared. On the other hand, education in schools does not yet address this trend. In this respect, we are waiting for a redemptive educational methodology through which the expressive power of colours might come closer to its users. Previous treatment of colour in the context of art disciplines does not contribute enough to resolve the deadlock. We believe that colours should be considered as languages, which have developed over many millennia in specific geographical and cultural contexts. Colour is a direct language of emotions, and people feel the need to express their feelings, therefore the result is colour babbling on their façades. It couldn't be more obvious that facing our profession are very serious challenges for future education!



Traditional Slovenian bee-house in the mountains. Is the colour a key element of the architectural cultural heritage, or is it a form of 'colour babbling' polluting the landscape?



In 2013, the Comité Español del Color organised the X National Congress that was held 26–28 June in the Universitat Politècnica de València, chaired by Prof Angela García Codoñer. The number of attendees was around 120 people with 20 oral papers and 73 poster papers and 2 invited lectures. Dr Mark D Fairchild from Rochester Institute of Technology (USA) presented the talk 'Color Scales'. Dr Verena M Schindler presented 'AIC Study Group on Environmental Colour Design'.

The conference was an excellent forum to discuss different colour-related topics during both the oral and poster sessions: colour science, colour perception, colour in foods, colour in art and architecture. The social programme included a welcome reception in the gardens of the Universitat Politècnica de València, and the banquet dinner was held in the Albufera Natural Park where everyone enjoyed the beautiful landscape. The Proceedings of the Conference are still available and you can get a copy just by contacting color@sedoptica.es.



X Spanish Congress of Color in Valencia.

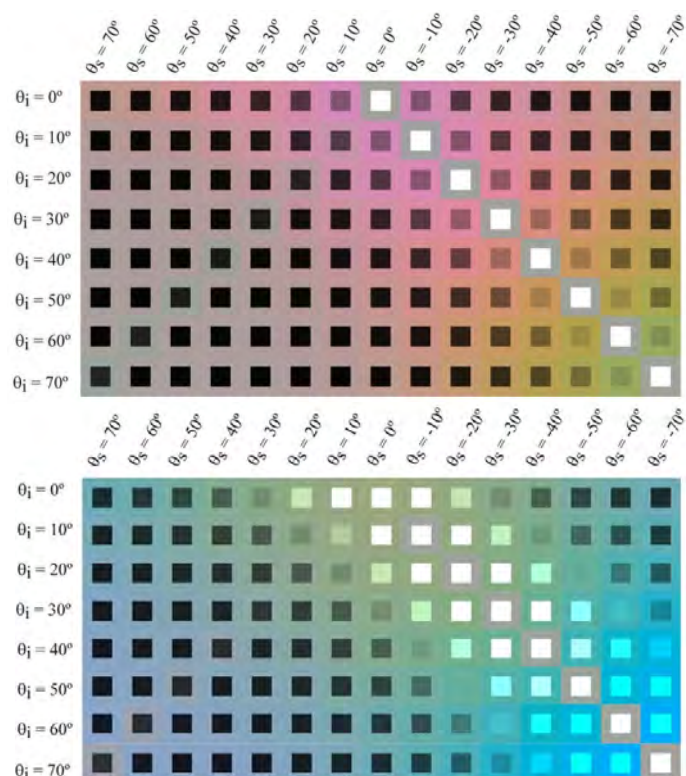
A new executive committee emerged from the X National Congress. The executive committee is now constituted by Dr Francisco Heredia (Universidad de Sevilla) as President, Dr Juan Luis Nieves (Universidad de Granada) as President-elect and Dra Esther Perales (Universidad de Alicante) as Secretary. In addition, Dr Juan Luis Nieves has been designated as the Spanish Representative to AIC.



Some members of the Spanish contingent in front of Durham Cathedral during AIC2013.

Our Committee had a high participation at the AIC2013 Congress. Fifteen people travelled to Newcastle with 4 oral papers and around 15 poster papers. Members of our Committee also continued their activities at different Technical Committees of the International Commission on Illumination (CIE), including TCs 1-55, 1-63 and 1-92.

It is worth noting research conducted by members of the Instituto de Optica 'Daza de Valdés', Consejo Superior de Investigaciones Científicas (CSIC) and the Colour and Vision group from the University of Alicante, which focused on a procedure to show the colour shift caused by special effect coatings. The representation is a colour gamut table where the measurement geometry is given by the rows (θ_i = irradiation angle) and columns (θ_s = viewing angle). Every cell of the table contains a central square with the reproduction of the colour in the corresponding geometry. The cell background contains the reproduction of the colour but keeps constant the lightness for every geometry in order to show the attainable hues. The most important characteristic of the proposed representation is that it enables a straightforward understanding of the colour shift in terms of conventional irradiation and viewing angles. Therefore, these representations visually show the colour change for a meaningful number of geometries, and so could be used as the basis for a colour catalogue, visualised on colorimetrically calibrated displays or printing devices.



Representation of color gamut of two different special-effect coatings

Finally, we would like to mention the participation of several members of our committee in the European Erasmus-Mundus Master 'Color in Informatics and Media Technology' (CIMET, www.master-erasmusmundus-color.eu) and in different training courses about colour in the Universidad Nacional de Colombia, Universidad de Cartagena (Colombia), Universidad de Caldas (Colombia), Universidad de Nariño (Colombia) and Universidad Autónoma de Baja California (México).



The Swedish Colour Centre Foundation has around 150 individual members and 25 organisational members. Its mission is to: 1) Encourage scientific research within the colour field of interest for industry, education and people working with colour; 2) Spread new knowledge and experience within the field of colour; and 3) Be a national centre for colour and colour research. Welcome to visit our Colourspot www.colourspot.org We are always keen to have more visitors!

This year we celebrated the International Colour Day on 21 March with an exclusive wallpaper exhibition from Sorunda. This is a small community known for its rich culture and has two very enthusiastic ladies who guided us through their history of wallpapers. They have spent time bringing home old wallpaper samples, cleaning them and gluing them onto screens and documents, including photos and notes about where they came from. The collection 'Sorundatäpeter' includes a total of more than 200 samples of assorted original wallpapers and a number of photos dated between 1850 and 1940.



Wallpaper meeting celebrating International Color Day.

In February we got the opportunity to listen to Fanny Ambjörnsson, social anthropologist and gender researcher at Stockholm University. Her book 'Pink – the dangerous colour', from a gender perspective, has attracted much attention. Fanny is trying to sort out why you either love pink or feel disgusted by it. She examines what the pink colour stands for and what human attitudes toward pink say about us today.



Many dressed in the dangerous colour pink!

In May we arranged a guided tour at the Museum of Modern Art, Modern Museet, to see a retrospective exhibition 'Hilma af Klint'. She was a pioneer in abstract art, who between 1906 and 1915 produced nearly 200 paintings of monumental format. Hilma af Klint was interested in spiritualism, theosophy and later on anthroposophy just like Kandinsky, Mondrian and Malevich. She left more than 1,000 paintings, watercolours and sketches. Moderna Museet's retrospective exhibition will be touring internationally 2013–2015.



Hilma af Klint exhibition at the Museum of Modern Art.

In September we held a members meeting at Stockholm Royal Palace about the exterior colour of the façade. In April 2011, the National Property Board began the most extensive restoration project in Sweden's modern history. The work is expected to take 25 years and cost 500 million Crowns. The project has created a lively debate about what is the true colour of the Royal Palace façade. The exact shade has not yet been decided, but will be based on sand-coloured plaster from 1898–1902 to harmonise with the bare, aged Gotland sandstone.

In October we had a guided tour at the Nordiska Museet about 'Stripes, Rhythm, Direction', an exhibition of stripes from lots of different perspectives. Stripes can be found everywhere, in the clothes we wear, on buildings, in art, on furniture and textiles, in the surrounding landscape, etc. They can be used in different ways and signal different things. They can be good or evil, point things out, demonstrate power or issue warnings.



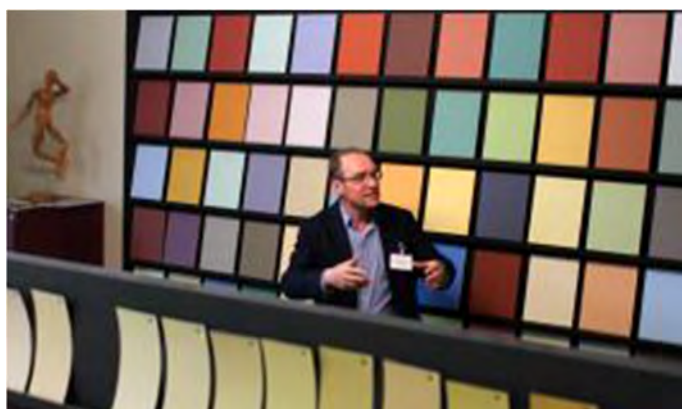
The exhibition 'Stripes, Rhythm, Direction'.

The last event of 2013 was the annual meeting of the Swedish Colour Centre Foundation, which ended up with a colour talk about colour symbolism within the modern art presented by Ulf Wagner. We are looking forward to 2014 when we will celebrate our 50th anniversary with a lot of different activities.



members. In addition, the pro/colore Executive Committee Members and Head Office revised the statutes and regulations and created a new up-to-date website for pro/colore.

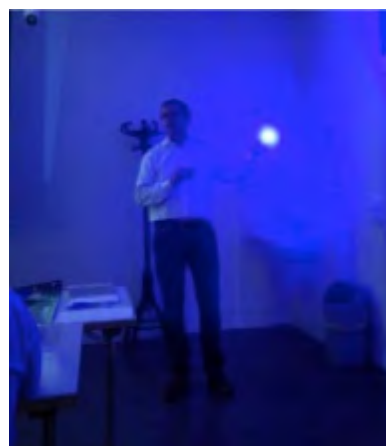
The 22nd General Assembly took place on 13 March upon the invitation of THYMOS AG in Lenzburg. Attending members adopted the revised statutes and updated subscription regulations. Other business included acknowledging the work of three long-term board members who have resigned: Ernesto Bergantini, Ueli Wagner and Christian Engi. Also on the agenda was a report from pro/colore's delegate to the AIC, Verena M Schindler, who summarised the activities and events of the International Colour Association, the umbrella organisation for colour specialists. As a special feature of the gathering, host THYMOS AG presented its showroom. As a conclusion Matthias Käch, member of the Swiss Federal Institute of Intellectual Property, Bern, gave a talk 'Protect Ideas! But how?'.



On June 3rd Dr Walburga Liebst, researcher at the Institute of Systematic Botany, University of Zurich, gave us a tour through the Botanic Garden. In particular Dr Liebst directed our attention to the colour of the flora, which demonstrates different strategies for outdoor survival and reproduction. Afterwards we visited the reopened greenhouses where we saw many plants including a *Curcuma longa* whose rhizomes provide the yellow-orange pigment of turmeric powder, one of the main ingredients of curry. A highlight not to be missed was saffron, which is cultivated in small quantities in Switzerland in Mund, a village in Canton Valais.



The workshop 'Light – Human – Health', took place on 13 September at Brahmschhof in Zurich-Albisrieden. The speaker, Alexander Wunsch, a physician and light therapist from Heidelberg, immediately fascinated the many attendees. Covering natural as well as artificial sources of illumination, his talk comprehensively addressed the effects and dangers that light and its radiation can have on people and the environment. His concerns and the experiments he showed included a range of topics from the effects of sunlight and coloured light on human physiology to the consequences of recent EU regulations upon health and lighting design.



For the final event on 7 November, members visited GLAS TROESCH AG in Volketswil. Valentino Maffei, Branch Head of the firm, gave a presentation and described the activities in various market segments. Technical Advisor Ernst Schaffner showed different ways of using coloured glass in architectural design, glass being one of the most versatile materials. Matthias Zellweger, showed us an example of applying coloured glass in the tower of his Psychiatric Services project in Thun. He vividly described the design concept. Not only did glass increase the safety of patients, but also the tower became an artwork creating an ongoing spectrum of changing coloured lights depending on the daylight. He also presented the product idea of *Squeasy*, a foldable, reusable bottle produced in many vivid hues. The underlying idea is to promote the drinking of the excellent quality Swiss tap water rather than mineral water in throw-away bottles to protect the environment better against plastic waste. The inventors Matthias Zellweger and Thomas Liebe were given the World Packaging Award in Sydney in May 2013 for their original packaging design.





The Color Association of Taiwan (CAT) looks back on an exciting year full of activities. Among the highlights have been: attending the AIC 2013 Congress 'Bringing Colour to Life', the CAT Annual Meeting, and attending ACA in Thailand.

Asian Color Forum on Color Design, Applications and Science

This international event was held on 8 June at Chinese Culture University. It continued the exchange between colour experts on the latest trends and future developments of interdisciplinary colour studies. The speakers were: Prof Chiung-Ying Kuo, Dean of the CCU Landscape Department; Prof José Luis Caivano, Buenos Aires Ciudad Universitaria, Argentina; Prof Yoichi Miyake, Chiba University, Japan; and Dr Vien Cheung, University of Leeds, UK.



Prof Yoichi Miyake of Chiba University, Japan, speaking at ACF.

Workshop: 'Colors in the City'

Prof José Luis Caivano (Argentina) was invited to guide the attendees through the workshop on 10 June, introducing basic aspects of colour use in the city's man-made environment. Participants learned how to identify colour themes, and to understand colour application in urban design.

The 2nd Cross-Strait Symposium on Color

On 27 July a delegation of the China Fashion and Color Association (CFCA) with General Secretary Zhu Sha, Prof Guo Jiang-Yu, Prof Xu Hai-Song and others met for a professional exchange with colour experts of Taiwan. The mutually conducted symposium was held at Chinese Culture University.

AIC 2013 Congress: 'Bringing Colour to Life'

The 12th Congress of the International Color Association (AIC) was organised by The Colour Group (Great Britain) in Newcastle. Twelve experts from CAT, led by then CAT President, Prof Tien-Rein Lee, participated and submitted papers in the event. Prof Lee was also elected to the position of AIC Secretary-Treasurer during the AIC General Assembly.

CAT Annual Meeting

During the 4th session of the 5th period of the CAT General Assembly on 19 October, a new CAT Board of Directors and Executive Committee were elected for the term 2013–2016. Prof Yuh-Chang Wei has taken the position as the President, and Prof Vincent Sun as the General Secretary.



Delegates at the CAT Annual Meeting.

Taipei City Color Survey

A comprehensive colour survey was conducted by CAT in order to identify the typical colours of Taipei City, with citizens participating by choosing street colours for their neighbourhood. Based on the results of this survey, a proposal on future colour planning will determine significant, recognisable colours to define Taipei's colour identity.



Colour researchers in action for the Taipei City Color Survey.

ACA 2013 in Thanyaburi, Thailand

CAT representatives attended the first Asia Color Association conference in Thailand in December, following an invitation to provide one of the keynote speeches. Prof Yuh-Chang Wei delivered the presentation on behalf of Prof Tien-Rein Lee: 'The color we use in our daily life - communicating with color'. ACA 2014 will be organised by CAT and held in Taipei. For more information please see: www.aca2014.org





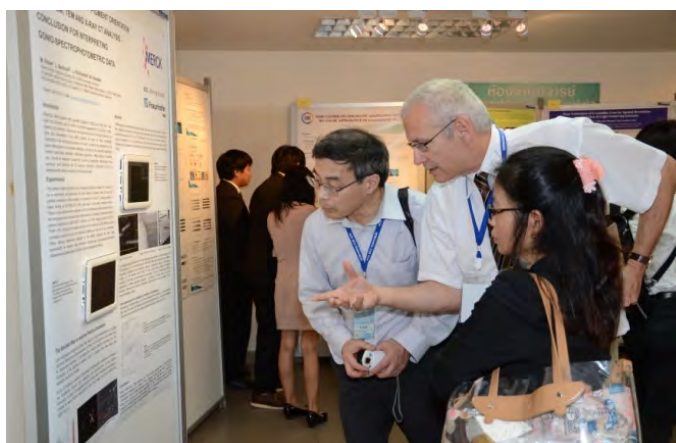
The Color Group of Thailand (CGT) was proud to host the 1st Asia Color Association Conference (ACA2013) with the theme: 'Blooming Color for Life', during 11–14 December

at Rajamangala University of Technology Thanyaburi (RMUTT), Pathum Thani Province, Thailand. After the opening ceremony, a laboratory tour was organised for attendees to see the progress of colour research. In the afternoon, a pre-event workshop was organised by Prof Kim Young-In of Yonsei University, Korea, on the popular title 'What color of clothes fits to your face and hair?'.



Welcome dinner for ACA2013 delegates.

There were five keynote lectures from the ACA founding members: Mr Purin Akarakunthron, director of the lotus museum of Rajamangala University of Technology Thanyaburi, Thailand, 'Blooming colors of lotus, how do we develop?'; Prof Hiroyuki Shinoda of Ritsumeikan University, Japan, 'Vision, Light and Color – mechanism of seeing and techniques for displaying'; Assoc Prof Mikiko Kawasumi of Meijo University, Japan, 'A comparative study in Asian countries on color preference for factory products'; Prof Yuh-Chang Wei of Chinese Culture University, Taiwan, 'The color we use in our daily life'; and Prof Haisong Xu of Zhejiang University, China 'Color difference evaluation for digital images'. In total 224 participants from 12 countries attended the conference. There were 97 presentations (5 keynote lectures, 40 oral presentations and 52 poster presentations) in six main topics. Other activities included a welcome dinner and a half-day tour to the Ayutthaya historical park, a UNESCO world heritage site.



Lively discussion at the ACA2013 poster session.

In 2013, the research project on Traditional Thai Colours was completed and the results published in *Color Research and Application* in November, entitled 'Complete study of traditional Thai colours used in mural paintings: Traditional Thai Colour Name Dictionary'. The article presents 147 traditional Thai colour names, all

analysed, identified, quantitatively described and translated. It also describes the Trichromatic Colour Analyser (TCA) Software developed for this research project. General information of the full TCA LabPack System was published in a paper in the AIC 2013 proceedings and is also available for download from: www.trichromaticity.com



In January 2013, Chulalongkorn University decided to reactivate the Colour Management Research Unit. In April, Assoc Prof Dr Pichayada Katemake was appointed head of this research unit. She changed its name from 'Colour Management' to 'Colour Science' in July and merged its activity and space with the 'Colour Research and Multimedia Laboratory' that she created in 2011. The Colour Science Research Unit (CSRU) has its own official website launched in November at: www.thaicolour.com and is connected to social media through its official Facebook page at: www.facebook.com/colourscienceru and through its official google+ page at: <https://plus.google.com/+ThaicolourScience>. Two funded and several unfunded projects are in progress.



Dr Razvan Ion Preda and Dr Pichayada Katemake at CSRU.



The ISCC is the principal professional society in the field of color in the United States. The Council was founded in 1931 with the goal of advancing the knowledge of color as it relates to art, science, and industry. There are three classes of ISCC membership: Individual, Member-Body and Sustaining. Currently we have 8 Sustaining Members, 17 Member Bodies, and approximately 100 Individual Members.

Publications

The ISCC News was published quarterly in 2013. Michael Brill's *Hue Angle* columns featured such fascinating topics as 'What the dichromat's eye tells the trichromat's brain', 'What color is an orange?', and 'Seeing brightness in the (holiday winter) season of little light'. Mark Fairchild's *Metameric Blacks* columns opened our color curious minds to such questions as 'Why can we only see visible radiation?', 'Why can't I see colors at night?', and 'What is light?'. ISCC is pleased to offer our entire newsletter archive online at www.iscc.org from the years 2004 to 2013. Another recent addition to the ISCC website is a publication entitled 'US color researchers born in the 19th century'. It highlights the main color contributions of Ogden Nicholas Rood, Frederic Eugene Ives, Albert H Munsell, Norman Macbeth, Herbert Eugene Ives, Matthew Luckiesh, Irwin G Priest, Isaac H Godlove, Arthur C Hardy, Harry Helson, Leopold Mannes, Dorothy Nickerson and Deane B Judd.

Meetings

For the first time ever, the ISCC Annual Meeting held on 21 October was a virtual electronic teleconference meeting. It required some very careful planning, and we are happy to report that it was very successful. The Board of Directors has been considering changes in the role and activities of the ISCC to benefit the membership. Part of the reason for scheduling this Annual Meeting via the web was so that we could get input from members who might not be able to travel. Therefore, the majority of the time was set aside for discussion of what the future of the ISCC should be. About 25 people called into the meeting. Highlights featured discussions of the virtues of in-person meetings, especially on specific color topical areas.



ISCC officers: Scot Fernandez (President), John Conant (President-Elect) and Ann Laidlaw (Secretary).

The membership has shifted from a majority of Member Bodies, when ISCC was formed in 1931, to a majority of Individual Members today. So discussions centered around how the Individual Members can be better served. One result was a change in our fees structure. Individual membership dues were decreased to reflect the efficiency of using electronic delivery for newsletters, ballots and other communications. Member Bodies no longer have to pay dues. New connections have to be made to delegates within each Member Body. A social media committee was formed to study ideas on how the ISCC may utilize social media to benefit our members. This committee is also addressing website improvements to benefit members. We expect that we will be conducting more business and meetings over the internet in the future.



Joy Turner Luke receives the ISCC Godlove Award from Ellen Carter.

Awards

The ISCC Godlove Award was presented to Joy Turner Luke in June. Joy's unique career has been filled with long-standing contributions to art, color science and education, the complementary disciplines of the ISCC. At the AIC 12th Congress in Newcastle, our own Dr Roy Berns received the coveted 2013 Deane B Judd Award for his internationally acclaimed contributions in the areas of color science education, color difference formulae development, spectral-based imaging systems, total appearance measurements, and digital rejuvenation of precious works of art (see report on page 13).

People

The current ISCC officers are Scot Fernandez (President), John Conant (President-Elect), Frank O'Donnell (Past-President), Ann Laidlaw (Secretary), Joann Taylor (Membership Secretary), and Cameron Miller (Treasurer), with the following members serving various terms on the Board of Directors: Ellen Carter, Michael Brill, Romesh Kumar, Art Springsteen, Paula Alessi, and Kim Vlaun. All positions held are voluntary.

Upcoming Events

The ISCC will be hosting the Color, Light and Appearance Week 16–20 June, 2014 at the National Institute of Standards and Technology (NIST). CIE Division 1 will be meeting on Monday and Tuesday of that week. ISCC will be conducting a bridge symposium on Wednesday with 13 invited papers. Please see the ISCC website for more details (www.iscc.org). ASTM will be meeting on Thursday and Friday.

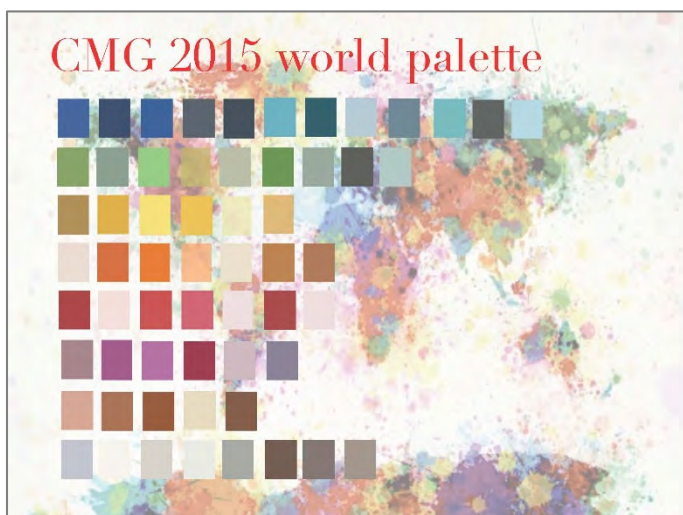
ASSOCIATE MEMBER – COLOR MARKETING GROUP (CMG)



The Color Marketing Group (CMG) is proud to join AIC in 2013 as an Associate Member. Founded in 1962, CMG is a not-for-profit organisation, and is the premier international trade association for color design professionals. Our mission is to create color forecast information for practitioners who design and market with color. CMG's major focus is to forecast the direction in which color is developing across multiple industries. This is achieved through the collaborative efforts of CMG members and participants who attend CMG's global color forecasting workshops and meetings.



During these workshops and meetings participants discuss and identify the stories that will become the basis for future color trends. These color stories are eventually narrowed to a final Color Forecast, which is distributed to participants in digital format, with color notations in NCS, Pantone, RAL, Munsell and RGB. The information gathered from each workshop becomes part of the broader color analysis that takes place during CMG's annual International Summit. Here participants see the comparison of the results of all the color forecast meetings held throughout the world, and hear full presentations from North America, Europe, Asia, and Latin America. These reports are collated and revealed as CMG's World Palette.



In 2013 CMG's International Summit was held in Palm Springs, California, with over 200 color design professionals from around the world. Delegates engaged with other color experts, heard inspiring, informative and entertaining guest speakers, and participated in CMG's unique Color App Workshops. These provide a new way to engage in color, in which participants work with CMG's directional World Palette, applying these colors to real industrial requirements as Colors in Action, or as they appear now in markets. The final outcome of each workshop was presented during the Summit's closing session and distributed to all participants and CMG Members.



With the ongoing support from our key sponsors in 2013 (NCS, X-Rite Pantone and Dorn Color), as well as our volunteer network of members and contributors, CMG was able to hold Color Forecast Workshops in repeat locations such as Atlanta, Chicago, Denver, Las Vegas, New York, and Toronto, as well as explore new cities like Greensboro and Minneapolis. On an international level, in June 2013, CMG held an inaugural Forecasting Workshop during the Barcelona Design Week, courtesy of Barcelona Centre de Disseny. Our ongoing alliances with trade show organisers saw us participate actively in NeoCon 2013.



Color forecasting workshop in Barcelona.

There are three kinds of Membership with CMG: Individual, Company, or Regional. Color professionals engaged in color forecasting for products or services are also eligible to participate in CMG Workshops and meetings.

For more information on Color Marketing Group please visit our website at www.colormarketing.org or engage with us through social media on LinkedIn, [Twitter.com/colorsells](https://twitter.com/colorsells), or [Facebook.com/www.colormarketing.org](https://facebook.com/www.colormarketing.org). Here you will find details of our 2014 International Summit to be held 14–16 November in Orlando, Florida, USA. We will especially welcome AIC members involved in creative color design and application.

AIC STUDY GROUP ON COLOUR EDUCATION (CE)

2013 was an exciting year for the SGCE. In July we had a well-attended meeting/workshop during the AIC 2013 Congress in Newcastle. In the first part of the meeting Graham Clayton spoke of the role of the Society of Dyers and Colourists (SDC) in Colour Education. Next Ben Craven and Ron Douglas spoke of their experiences over five years as Teaching Fellows in secondary schools for the Colour Group of Great Britain. The second part had the theme of colour demonstrations, and SG members presented their favourite classroom demos with no computer simulations or PowerPoint presentations allowed. Thanks are due to Michel Albert-Vanel, Nick Harkness, Nicoline Kinch, Yuta Asano, Manuel Melgosa, Oswaldo Da Pos, Paul Green-Armytage, Lindsay MacDonald and Robert Hirschler for a colourful afternoon! A detailed description of the demonstrations will be published as an article in the JAIC.



Oswaldo Da Pos presenting his demonstration at the SG workshop.

Andrea Siniscalco and Maurizio Rossi of the Politecnico di Milano Master programme in Colour Design & Technology, organised in 2013 five days of free open lectures around Italy (3 in Milano and Bari and Parma) themed on various aspects of colour: basics (Claudio Oleari), perception (Maurizio Rossi), measurement (Maurizio Messa), product design and Munsell (Francesca Valan), optical illusions (Oswaldo Da Pos), marketing (Bepi De Mario), digital colour (Andrea Siniscalco) urban planning (Aldo Bottoli), building requalification (Giulio Bertagna) and architecture (Arturo Dell'Acqua Bellavitis). The open lectures had great success with the participation of many students, researchers and professionals.



Exercises with the Munsell system during the open lectures organised by Andrea Siniscalco and Maurizio Rossi of the Politecnico di Milano.

Nick Harkness, new Vice-President of the AIC, was invited by Fisher & Paykel to run a one day colour workshop for members of their design team based in Dunedin, New Zealand. The company manufactures high quality electrical and gas appliances, and the Design Centre is responsible for developing state of the art electric and gas ovens plus hobs, barbecues and dishwashers. The one day workshop included colour exercises using gouache paints and NCS student exercises to demonstrate visually colour terminology and theory.



Gouache paint and NCS student exercises in New Zealand.

The Kolormondo concept was introduced globally at the AIC Congress 2013. All delegates received a free copy of the Kolormondo 3D Colour Puzzle, which is used in teaching and training in many countries from Sweden to Chile. SG member



Nicoline Kinch, was nominated as European Female Inventor of the Year 2013.

It's child's play – five-year-old Eva is getting familiar with the world of colours by playing with the Kolormondo model.

SG member Paula Csillag helped organise a splendid interactive exhibition at SESC (Serviço Social do Comércio) in São Paulo, Brazil. She took her students there to marvel at the beautiful exhibits based on the work of Albers and Itten, among others.



Students of Paula Csillag at 'Name of Colour' exhibition in São Paulo.

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The AIC 2013 Congress was special in terms of the ECD meeting held on Tuesday 9 July. Thirty-five spotlight presentations covered a wide range of topics

arranged in ten groups: (1) material-colour design issues including complementary colour harmony (Vien Cheung), colour selection strategies (Philip Henry), colour reflectivity (Esther Hagenlocher), and colours of bronze (Patrick Callet); (2) perceived colour as revealed in landscape painting (Ken Smith), measured indoors (Barbara Matusiak), imagined (Joaquim Santos), and considered as 'psi colours' (Jacqueline Carron);



João Nuno Pernão: day-night perception of buildings in urban space.

(8) colour as a crucial element in revalorizing residential buildings (Pietro Zennaro), and supporting a healthy interior space for the ageing population (Pamela Topping); (9) dynamic atmosphere-inducing colour lighting (Huihui Wang), LED technology in museum lighting environments (Hung-Wen Luo), and combining white LEDs and daylight in art galleries (Naoki Tsukada); (10) colour and light matters including Nordic light and colours (Karin Fridell Anter), urban scenarios (Henriette Koblanck), day-night metamorphosis of urbanscape (João Nuno Pernão), and colour-light concerts (Gisela Meyer-Hahn).



Gisela Meyer-Hahn: colour-light concerts in interiors.

(3) applied colour palettes related to colour for hotels (Axel Venn), to Korean traditional colours modernised (Seolkjung Jung), to local environments (Jem Waygood), and to interior design (Melanie Yonge); (4) architectural colour as revived in Polish residential building estates (Justyna Tarajko-Kowalska), as new expressions in Argentine cities (Darío Suárez), and as reconsidered in Portuguese cultural heritage sites (Roselane Bezerra and Zélia Simões); (5) the complexity of colour in urbanscape in Russian Smolensk (Yulia Griber), in French Neyron (Verena M Schindler), and as a basis of colour trends in textile design (Renata Pompas);

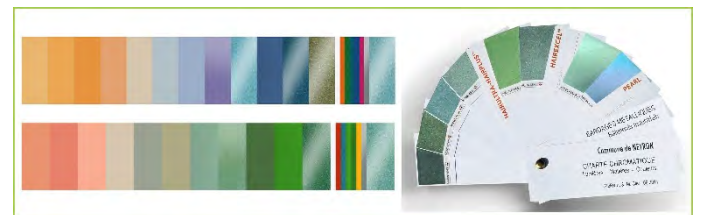


Ana Torres (left) and Juan Serra (right): the colour of Valencia, Spain.

Around a hundred delegates participated in the meeting. The feedback was enthusiastic. Attendees gained an extremely informative, dynamic and inspiring overview of the breadth of environmental colour design. Vojko Pogacar provided the AIC 2002 Proceedings as digital files, now available online on the AIC website under the menu 'Congresses'.



Renata Pompas: landscapes and textile colour trends.



Atelier France and Michel Cler: colours for industrial buildings.

(6) the role of colour in past architecture of functionalism and modernism (Eskild Bakken), of Alvar Aalto in relation to Kazimir Malevich's work (Joaquim Santos), and in drawings of Portuguese architects (Natacha Moutinho); (7) colour preference studies for children's spaces (Francesca Valan, presented by Alessandro Rizzi), for classrooms (Fazila Duyan), for interior colour schemes (Azusa Yokoi), and for evaluation models of architectural colour (Eunmi Yu);

New ECD members in 2013 included: Pauline Robert (France); Ralf Weber (Germany); Karen Fleming (Ireland); Francesca Valan, Alessandro Rizzi (Italy); Kiwamu Maki (Japan); Ana Pais Oliveira, João Nuno Pernão, Natacha Antão Moutinho, Roselane Bezerra (Portugal); Noëlle von Wyl, Ines Klemm (Switzerland); Fazila Duyan (Turkey); and Jem Waygood, Hayley Peacock, Vanessa Volpe (UK).

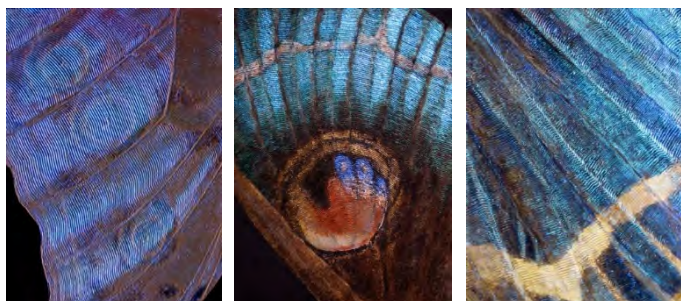
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AIC STUDY GROUP ON VISUAL ILLUSIONS AND EFFECTS (VIE)

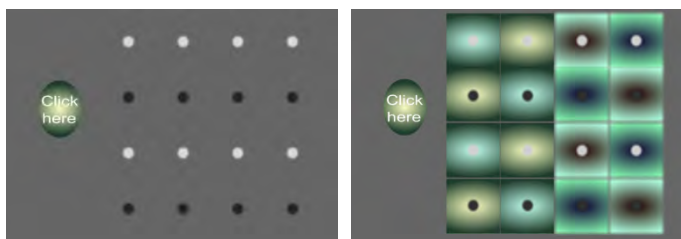
During the AIC 2013 Congress the Study Group on Visual Illusions and Effects had the great occasion of organising an exposition of illusions lasting a couple of days with a final meeting which included presentations, discussions, and a performance in front of the exhibited works.

As always happens, one wonders what is a colour illusion, because the answer is crucial for understanding the phenomenon. The answer is completely different from what people naively think, as usually we do not ponder enough about the meaning of perception, in the widespread belief that we just open our eyes and see what is there in front of us. Most people wrongly accept that we are facing an illusion when what we see is different from what is really out there. How do we know the characteristics of the world outside of ourselves to make a comparison between perception and the so-called reality? Can science tell us how the world should appear without knowing how we actually perceive it?



Franziska Schenk – Iridescence produced by optical nano-materials in the painting. Perceived colour depends on light and viewing angles.

The correct answer is that visual illusions are regular perceptions, like all others: what induces us to consider them illusions is the oddity that the same thing appears very different in different moments. The reason for these differences is some change in the context, such as the surround, illumination or viewpoint, and also in the observer (adaptation state, attention). The illusion is stronger when the difference is more spectacular. Often the difference is only known indirectly, for instance we have been told that it is the same thing, and in this case the illusion is rather weak, not astonishing. On the other hand movement, either of the object or of the observer, can be an important source of illusions because it introduces directly visible changes in the context and at the same time it can maintain the identity of the observed object so that variations in its appearance are more striking.



Arthur Shapiro – When the two surround columns at right interchange, the small disks appear to flicker out of phase as a consequence of the different contrast with the background.

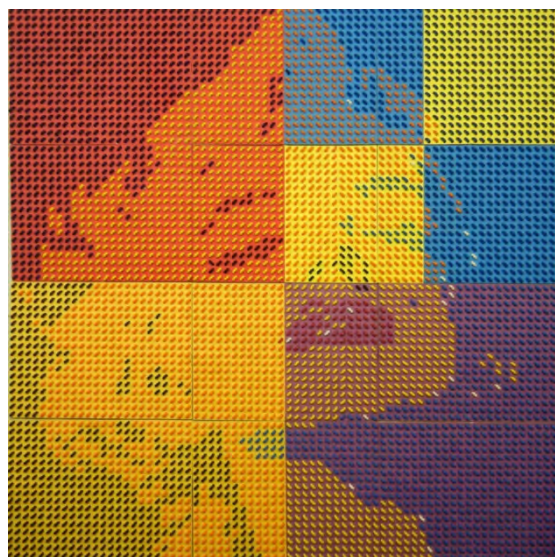
All this happened at the exhibition of colour illusions in Gateshead, and the static reproductions of those illusions printed here are not so amazing as they were in reality.

Iridescent colours, produced by Franziska Schenk through a new and extraordinary technique, appeared to vary as a function of the direction of sight and of illumination. In another painting technique elaborated by Melissa Olen, colours not only appeared of a bronze lustre but also disappeared just by varying the viewing direction. The shape of a wonderful mosaic rosette presented by Massimo Caiazzo could pass from a strong impression of 3D to a completely flat surface just by changing the point of view. Groups of colour patches appeared to vary incredibly when only the surround was changed, as we could see in displays by Arthur Shapiro.



Massimo Caiazzo – Mosaic rosette in enamel polychrome. Perception of the third dimension takes place through modulation of colour.

An interesting traditional effect was artistically presented by Ailin Chen, who showed a Marilyn Monroe painting in which the background colours differed from figure colours as a consequence of contrast and assimilation effects with small gomito pasta pieces. The continuity of the colours could be picked out by paying attention at the transition borders.



Ailin Chen – Contrast, assimilation, and Marilyn Monroe.

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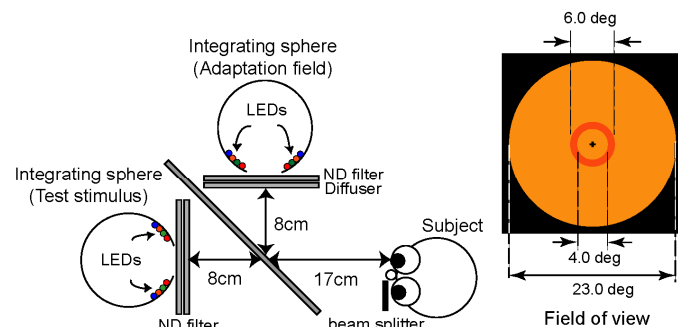
osvaldo.dapos@unipd.it
www.psy.unipd.it/~dapos/visual_illusions



The purpose of this Study Group is to discuss basic and practical studies on colour vision, appearance, 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. We deal with topics from color vision models to universal color design, including colour perception of the elderly.

Currently, the SG has 72 members from 16 countries. There was no meeting in 2013, but we are planning to hold meetings at AIC2014 in Mexico and AIC2015 in Japan. The SG homepage can be found at: www.okajima-lab.ynu.ac.jp/CVPSG/

A significant paper related to the SG was presented at AIC 2013 by Tsujimura *et al.*, entitled 'Rod, cone and melanopsin interactions in color perception'. There are two principal mechanisms in colour perception: red-green and blue-yellow. These are strongly associated with two cone-opponent mechanisms, $|M-L|$ and $|S-(L+M)|$ reported in physiology. The $|M-L|$ mechanism constructs an opponent signal from L-cones and M-cones. Similarly the $|S-(L+M)|$ mechanism constructs an opponent signal from S-cones and linear summation of L and M cones. These two mechanisms convey colour information to the brain centre and induce a colour perception. It has been well known that the perception of colour varies depending on ambient irradiance level. Red objects are perceived darker whereas blue objects are perceived lighter as the ambient irradiance level decreases, the so-called Purkinje phenomenon, which can be explained by a rod contribution to colour mechanisms at low irradiance levels. Since the peak sensitivity of rods is at a wavelength of 505 nm, a blue-green region, that may account for enhancement of the perception of blue.

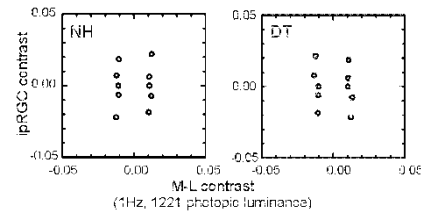


Four-primary illumination system, using four different types of LED.
The annular ring test stimulus was superposed on the circular adaptation field using a beam splitter.

Recently a fifth class of photoreceptor, different from the cones and the rod, has been discovered. The intrinsically photoreceptive retinal ganglion cells (ipRGCs) are directly photosensitive and play an important role in the irradiance encoding process in the brain. They contribute to circadian photoentrainment and the pupillary light reflex as well as brightness perception. The peak sensitivity of ipRGCs is around 493 nm based on the spectral absorption of prereceptor filters close to the peak of rods. Since the spectral sensitivity curves for rod and ipRGC overlap, it is difficult to know which photoreceptor contributes to colour perception.

The experimental study aimed to investigate colour perception in terms of ipRGC and rod stimulations. A four-primary system

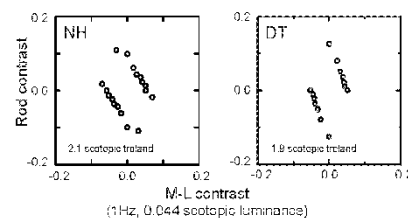
was used to control independent stimulation of the three cone types, rods and ipRGCs. These stimuli were applied for backgrounds at both an intense photopic irradiance level and at a dim mesopic irradiance level for cone, rod and ipRGC stimulations. Thresholds for change detection were measured for a mixture of M-L and ipRGC stimuli.



Detection threshold contours M-L vs ipRGC.

The results show that threshold contours that consist of several thresholds form a parallel line to

the vertical axis, indicating that these thresholds were determined solely by the test stimulus along the horizontal axis. In other words, the thresholds were determined by the M-L component of the test stimuli although the test stimuli were a mixture of M-L and ipRGC stimuli.



Detection threshold contours M-L vs Rod.

Thresholds were measured at a dim irradiance level ~1,000 times darker than in the previous

experiment. Test stimuli were a mixture of M-L and rod stimuli. The results show that a threshold contour forms a positive slope, indicating that these thresholds were determined by a linear summation of the M-L and rod signals. The results were consistent with previous studies that demonstrated that when rod signals increase the percept appears greenish.

It was found that there was a weak interaction between ipRGC and M-L cone-opponent signals at the photopic light level where both cones and ipRGCs are active. On the other hand, there was a strong interaction between rod and M-L cone-opponent signals at the mesopic light level where both rods and cones were functioning. It may be given as a conclusion that there seems to be a small contribution of ipRGCs to colour perception at photopic irradiance levels and a large contribution of rods to colour perception at mesopic levels.

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AIC STUDY GROUP ON THE LANGUAGE OF COLOUR (LC)



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

At present, the SG has 77 members from 18 countries. We are currently sending membership invitations by email to the authors of theses related to the LC study field presented at AIC meetings over the last 3 years. 26 members attended the SG meeting held at the AIC Congress in Newcastle. There were three presentations related to colour naming.



Presentation by Harald Arnkil at SG-LC meeting in Newcastle.

Discrepancy between perceived colour and named colour, Harald Arnkil and Antti Raika

Most colour naming experiments are made using colour chips or charts. They are presented as flat, uniform and rectangular samples on a white or otherwise neutral background. This is very seldom the way colours appear to us in everyday life. It is therefore necessary to investigate what effect the abstracted mode of appearance has on colour naming. Our experiment indicates some of the problems involved in carrying out such experiments using naturalistic images. Our study is part of a larger design experiment to see how participants (N=67) representing 15 different languages as mother tongues would name the colours of the same photograph.

Colourful Language, Eleanor Maclure

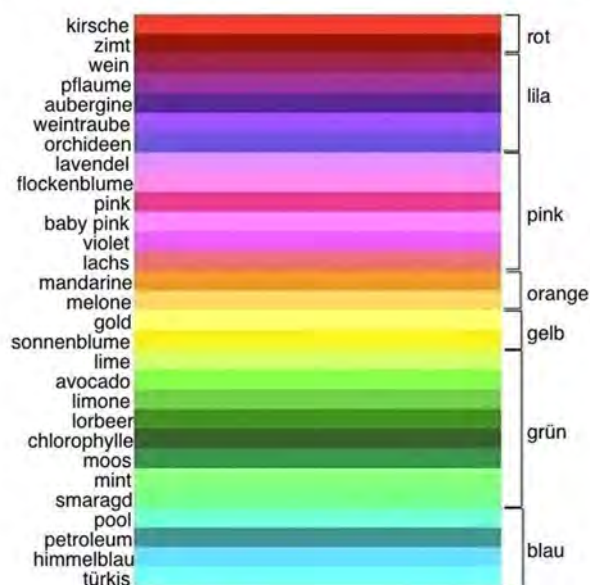
Colourful Language was a visual research project, which explored various aspects of the relationship between colour and language using a range of graphic design methods and processes. It was the Major Project for my MA Graphic Design at London College of Communication. Although there is an existing body of research examining the relationship between colour and language, by employing design processes this project tried an alternative approach to the subject. There is subjectivity at every level in the subtle way we physically experience colour and our interpretation. The variety seen in responses reflects the diverse nature of colour and our attempts to describe it.

Use of Colour Words in the English Language, John Hutchings

The study is leading to a compendium of colour words as used in vernacular English. This will focus on the basic colour terms of black, blue, yellow, red, white, green, brown, grey, pink, orange and purple, plus violet, indigo and the metal colours. Sources include some 300 dictionaries and published books, plus numerous items obtained from all types of media. This will not be a conventional dictionary because each colour will be divided into themes as dictated by the available data, perhaps what one might call a 'colourpedia'.

Frauen

Männer



Playful graphic found on the Web, exaggerating the gender differences in colour naming.

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COMMISSION INTERNATIONALE DE L'ECLAIRAGE
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.' 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>, as can Minutes of the 2013 meeting.



2013 Meetings

CIE Division 1 held a very successful meeting at the University of Leeds, UK on 4–6 July, immediately prior to the AIC 2013 Congress. The meeting opened with a one-day workshop on Colorimetry, Graphic Arts and Colour Management, the purpose of which was to explore areas of colour science of interest to ISO TC-130 Graphic Technology and to ICC, the International Color Consortium, which is an industry organisation responsible for all matters related to colour management in the image reproduction industries. The areas covered included: colour difference metrics, the surface of real colour gamuts, modifications to the CIECAM02 colour appearance model, measurement of fluorescent materials, and recent work on blackness. About 50 people attended the workshop including a number via a tele-conference link.

The workshop was successful in that the graphic arts representatives gained a greater understanding of recent innovations in colour science, and CIE recognised the need to recommend not only scientific methods but also industrial solutions. New issues raised included how to deal with over-range L^* values for fluorescent materials and the assessment of LED-based sources used to simulate D50 illuminants in viewing booths.

New Publications

The only publication from CIE Division 1 during the past year was CIE 204:2013: *Methods for re-defining CIE D illuminants*, which gives an overview of the construction of tables that describe CIE D illuminants, and proposes two methods to smooth these daylight illuminant spectral power distributions.

New Work Items

Several new Technical Committees were recommended in Leeds. TC1-92 Skin Colour Database plans to investigate the uncertainty in skin colour measurement, to recommend protocols for good measurement practice, and to tabulate skin colour measurements covering different ethnicity, gender, age and body location. TC1-93 Calculation of Self-luminous Neutral Scale will investigate potential formulae or computational methods for an achromatic neutral scale for self-luminous (i.e. non-reflective) surfaces. TC1-94 Visually Meaningful Spectral Luminous Efficiency Functions will propose new 2 degree and 10 degree photometric observers based on CIE Publications 086:1990 and 165:2005, as well as that of CIE TC1-36 Fundamental Chromaticity Diagram, and study their use in practical photometry.

A Reporter, R1-60, was appointed to report on publications on colour-difference evaluation and uniform colour spaces. This is necessary because TC1-55 Uniform Colour Space for Industrial Colour Difference Evaluation was unable to achieve a new colour space with an associated colour-difference formula significantly better than CIEDE2000. The reporter will keep the Division aware of relevant research results.

Next Meeting

The next meeting of CIE D1 will be at NIST, the National Institute of Standards and Technology, Gaithersburg, Maryland, USA on 16–17 June 2014.

– Dr Mike Pointer, Secretary of CIE Division 1



AIC 2014 – OAXACA, MEXICO

21 – 24 October 2014

A new opportunity for a gathering of international colour passionate is open in Oaxaca, Mexico. The Asociación Mexicana de Investigadores del Color A.C. (AMEXINC), is organising the next AIC Interim Meeting combined with the 3rd Mexican Color Meeting with the topic 'Colour and Culture: Past, Present and Future'.



Numerous abstracts have been received from Asia, Europe, Oceania, and Latin-America as well as from Mexico; the period for evaluating abstracts is from 22 February until 30 April 2014. We will have important special speakers, useful workshops, and enjoyable cultural activities.



The programme will begin on Tuesday 21 October with workshops (optional) until 6 pm. At 8 pm is registration and welcome. On Wednesday 22 in the morning begins the event with the Inaugural Session and first special talk. At 6 pm the first day will close with a 'Calenda', an exciting parade where everybody can dance under the rhythm of drums, fireworks, and giant puppets. On Thursday 23 will be oral sessions in the morning and a poster session after lunch. On Friday 24 the same scheme as previous day but then the Closing Session and Gala Dinner with show 'Guelaguetza', an important local folkloric dance. On Saturday will be a tour to Monte Alban.



Come to Oaxaca city and enjoy the local market where you'll find delicious products (mezcal, chocolate, traditional candies, etc.), and visit incredible and ancient places. Don't forget to buy pieces of excellent colourful handcraft (textiles, masks, jewellery, etc) as souvenirs. Local people will give you a warm welcome and great service.



Important dates for the AIC2014 Interim Meeting

Ultimate deadline for abstracts: 21 February
Assistant's registration (low fee): 3 March – 31 July
Workshops and cultural activities for companion: 1 April
Sending Acceptance Letters for abstracts: 1 – 15 May
Participant's registration (low fee): 1 May – 31 July
Registration regular fees: 1 August – 30 September
Close all registration for meeting: 30 September
Official Program publication: 3 October
Pre-meeting Workshops: 21 October
AIC2014 Interim Meeting: 22–24 October



Venue AIC2014: Hotel Misión de los Ángeles, Oaxaca
www.misiondelosangeles.com

Chairman AIC2014: Dr Carlos Aguirre-Vélez
amexincsocios@gmail.com

Contact: aic2014oaxaca@gmail.com | Facebook/AMEXINC |
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19 – 22 May 2015

The Color Science Association of Japan (CSAJ) is pleased to invite you to Tokyo for the Midterm Meeting of the AIC. In 1997, we held the 8th AIC Congress in Kyoto, the historical capital of Japan. Many of you might have a good memory of that event. Eighteen years have passed since then, and now we would like invite you back to Japan, this time to Tokyo, the modern and exciting capital city.

The theme will be 'Color and Image'. The word 'image' has a very wide meaning; not only a visible presentation, such as imaging devices, displays, pictures and so on, but also a visualisation of anything to the mind. So many topics of colour should be correlated to image. The following fields of colour practice are all welcome for delivery at AIC2015:

- Color Science
- Computational Color Image
- Color Imaging and Video Processing
- Color in Computer Graphics
- Color Reproduction
- Color Image Quality
- Multispectral Imaging
- Colorimetry / Colorimetric Imaging
- Digital Archiving of Art
- Color Vision / Psychophysics / Physiology
- Perception of Material / Surface Quality
- Color Image Design
- Color Environmental Design
- Color, Image and KANSEI
- Cosmetics
- Personal Color and Fashion

This Meeting will provide a unique colour forum, bringing together researchers, academics, students, artists, architects, industrialists, engineers, designers, computer scientists, lighting experts, media types, exhibitors and business leaders. The 17th International Symposium on Multispectral Color Science (MCS 2015) is also organised as part of AIC2015. We anticipate more than 300 delegates from all over the world.

The venue will be Ochanomizu Sola City Conference Center in Tokyo. You can easily access Tokyo from two International Airports: Narita, which handles the majority of international flights, is located 60 km north of Tokyo, while Haneda Airport is located more centrally.



2015
5.19(Tue.)-5.22(Fri.)
TOKYO

The city of Tokyo offers visitors a seemingly unlimited choice of shopping, entertainment, culture and dining. The city's history can be appreciated in districts such as Asakusa, and in many excellent museums, historic temples and gardens. Contrary to common perception, Tokyo also has many attractive green spaces in the city and at its outskirts.



The Orthodox Church in Japan "Nikolai-do" in front of Sola City.

May is the best month to visit Tokyo as the vegetation has become lush, the temperatures are still comfortable and tourist spots tend to be pleasantly uncrowded. Before, during and after the Meeting, you will enjoy the exciting city of Tokyo.



Cherry blossoms at RIKUGIEN near Sola City.



Ochanomizu Sola City

Important dates for AIC 2015:

- Submission start: 1 August, 2014
- Abstract deadline: 31 October, 2014 (early!)
- Notification: 15 January, 2015
- Proceedings deadline: 28 February, 2015

More updated information is available at www.aic2015.org

– Prof Hirohisa Yaguchi, Chair, AIC2015 Organising Committee

AIC 2016 – SANTIAGO, CHILE

18 – 22 October 2016

The Chilean Color Association (ACC, Asociación Chilena del Color), is pleased to invite you to Santiago, Chile for the AIC2016 Interim Meeting. The meeting theme will be *Colour in Urban Life: Images, Objects and Spaces*

The aim of the AIC2016 Interim Meeting is to share experiences regarding the use of colour in images, objects and space, from different perspectives and disciplines, to contribute to a better usability and also to improve the quality of life in our cities.

FIELDS AND TOPICS



- Colour and environment
- Architectural colour design
- Colour in product design & branding
- Colour and wellbeing
- Colour in interior & exterior lighting
- Colour in urban cultures
- Colour in wayfinding and signing
- Colour aesthetics
- Colour perception
- Colour trends in modern life
- Colour harmony and theory

This meeting will provide an opportunity for both presentation and discussion, bringing together academics, designers, architects, artists, landscapists, media types, fashion experts, lighting experts, researchers, students, exhibitors and business leaders. We anticipate that more than 300 people will attend from all over the world.

MEETING VENUE: CENTRO DE EXTENSIÓN UC

The meeting will be located in the heart of downtown and is easy to access through the metro and buses. The main auditorium for the conference is the Fresno Hall, with a capacity for 800 people. This room is next to the Central Plaza Hall, an ideal place for exhibition of posters and sponsors. The 'Centro de Extensión' also has other rooms of different sizes and capacities to host parallel meetings. All the rooms are air-conditioned and equipped with Wi-Fi technology.

THE CITY: SANTIAGO

Santiago is the cleanest and safest capital city of South America. October is an excellent month to visit, as it's spring with growing lush vegetation and temperatures are comfortable. Some of the main attractions to visit are: Cerro Santa Lucia, the hill that was the original founding place of Santiago which is now adorned with wonderful facades, fountains and stairways. GAM, the Centre Gabriela Mistral, is a cultural centre devoted



to disseminating and promoting performing arts and music; it offers contemporary drama and dance, as well as classical and popular music, a space for development and experimentation. Paris-Londres Neighborhood, one of the oldest streets in Santiago, has still maintained its old architecture. Museo Bellas Artes / Museo de Arte Contemporáneo, this palace holds two museums in one. While the museum downstairs features different exhibitions, upstairs there is a permanent display of colonial art. The most stunning aspect of the museum is the front foyer which filters in light over the marble walls and statues throughout the room. Patio Bellavista, in the heart of the Bohemian district, has become a meeting place for tourists and locals alike. Here you will find around 50 shops and restaurants as well as frequent cultural events from music to art. It's a great place to spend an evening.



Mercado Central nowadays is a favourite tourist spot for the colourful restaurants located around the seafood market stands. At the fantastical La Chascona, you can enter the world of the eclectic poet Pablo Neruda. The majority of Chile's wineries require a car to visit, but you can reach Concha y Toro winery on Santiago's fringe by metro, bus or a short taxi ride from the city centre. It offers an entertaining introduction into Chilean winemaking and the grounds are beautiful.



MORE INFORMATION

For registration and updated information about the programme, sponsorship possibilities, accommodation and travel details, please visit our website at www.aic2016.org. We hope that you will take this great opportunity to share your colour knowledge and experience. **Chile is good for you!**

– Ingrid Calvo, Paz Cox and Maria Rosa Domper
Organising Committee of AIC2016

16 – 20 October 2017

Korea Society of Color Studies (KSCS) is pleased to introduce the 13th Congress of AIC which will be held in the International Convention Center in the beautiful island of Jeju in South Korea. This is called the 'Clean and Green Island', which is suitable for the congress theme of 'Color and Health' and it is one of the most beautiful destinations in Korea.

The location of Jeju is in the heart of northeast Asia and has easy access via major cities in Asia, with over 100 domestic flights per day. An important fact of Jeju is that it has visa-free entry for 180 countries and is the only island with the UNESCO Triple Crown. The climate is sub-tropical.



What we will do during the Congress...

Because this is a quadrennial Congress we will welcome every topic related to colour in every discipline, but we particularly encourage submissions in the following areas:

Color

Vision, Measurement, Science, Appearance, Imaging, Psychology, Communication, Theory, In Art and Design, In Environmental Design, Education, In Nature, In Conservation

Lighting

New Technologies, LEDS, OLEDs, Color Rendering, Intelligent Lighting, Light for Health and Well-being, Lighting the Task, Lighting for Aging and Defective Color Vision

Application

Color in Food, Medicine, Cosmetics, Forensics, Architecture.

Where you will stay...

ICC JEJU is surrounded by a wide range of accommodation facilities with beautiful scenery. There are about 1,440 hotels and 1,247 pensions (apartment-style condominium) available within 10 km radius. The luxurious ICC Hotel and Resort, due to open in 2014, will be connected to ICC JEJU via an arcade, and will offer a special rate for AIC 2017 (30–40% discount).

What you will enjoy in Jeju...

- 1) Mount Halla Reserve, Geomunoreum, Seongsan Ilchulbong Tuff Cone. Because of their breath-taking beauty, these three areas known as 'Jeju Volcanic Island and Lava Tubes' were selected unanimously by the World Heritage Committee as the first World Natural Heritage Site in South Korea.
- 2) Various seasonal and traditional festivals held all over the island throughout the year.
- 3) Unique cuisine and attractions; diverse museum and theme attractions, Jeju's traditional food.
- 4) Traditional experience; women divers museum, organic dyeing activity.



ICC JEJU is located in the Jungmun Tourist Resort Complex, 50 minutes' drive from JEJU international airport, with the cobalt-blue Northern Pacific stretching away to the south and towering Mount Hallasan in the north. It provides world-class facilities and equipment for any kind of international conference. It also can be a Hot Spot for recreation and shopping with various natural landscapes, museums and duty-free shops. ICC JEJU has proven capability with the organisation of more than 1,500 meetings since its opening in 2003.





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

www.aic-colour.org