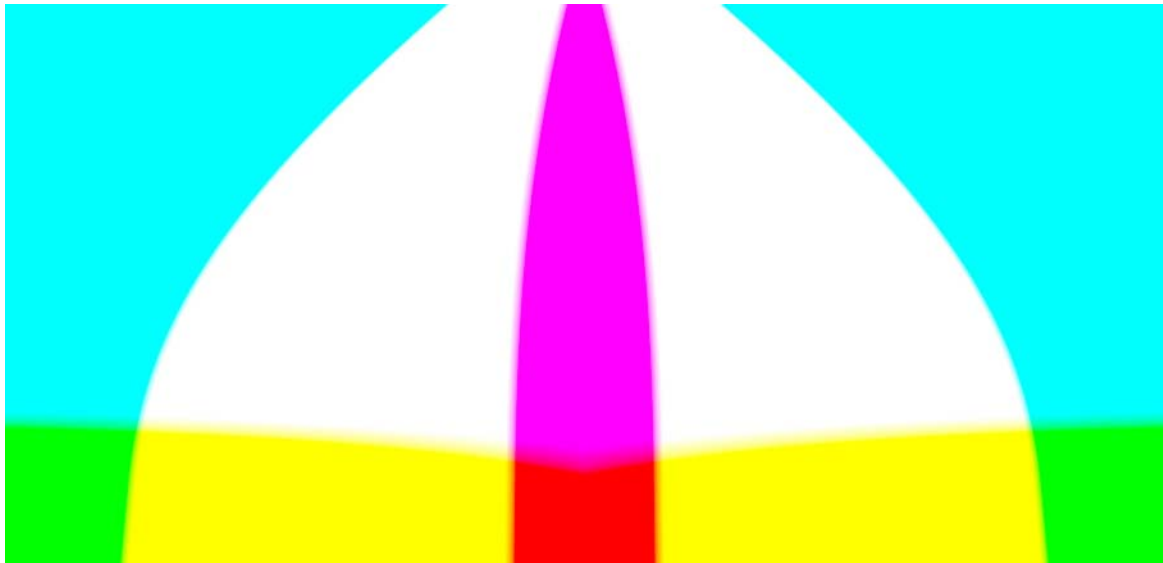




**ASSOCIATION INTERNATIONALE DE LA COULEUR
INTERNATIONALE VEREINIGUNG FÜR DIE FARBE
INTERNATIONAL COLOUR ASSOCIATION**

**NEWSLETTER
2011**



NO. 24

EDITED BY

Lindsay MacDonald

London College of Communication

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AIC 2010 Meeting and Mar del Plata – Photographs by Lindsay MacDonald, Ole Victor, Jose Caivano and Larissa Noury.

EDITOR'S NOTES

Thank you to everyone who contributed to this, the second edition of the AIC Newsletter under my term as Editor. It is really pleasing to see the diversity and strength of activity related to colour in every AIC member country. A theme running through many of the articles this year is the blend of science and design, particularly in relation to colour in architecture and lighting. The recent advent of LED sources seems to be generating a strong upsurge of interest in coloured illumination for both outdoor and indoor spaces.



Lecturing on colour measurement and perception in Mar del Plata.

The AIC 2010 interim meeting in Argentina was full of energy and character, in the charming seaside resort of Mar del Plata. It was a tribute to the boundless energy of José Luis Caivano, former President of AIC, and Omar Burgos, Chairman of the Argentine Colour Group, and the great work of the local organising committee that the event was such a success. Full reports can be found on pages 10-11. For me it was a pleasure to have the opportunity to present a short course 'An Introduction to Colour Measurement' to an expert audience on the day before the conference opened.

A distinguished invited speaker was overheard saying to a lady during lunch on the AIC Saturday excursion: "Madam, may I squeeze it for you ... or would you prefer to squeeze it for yourself?" It transpired that he was talking about the lemon garnish on the main course, but it demonstrates the rich potential of the subject of 'Colour and Food'!



A feature article is included (p.38) on the CREATE network, a European project which through a series of colourful events over the past four years has succeeded in training over 400 researchers with the assistance of some 100 experts – an outstanding achievement! Although this was not specifically an AIC activity, many AIC members were involved.

It is impressive in reading the articles in this issue to see how many conferences related to colour were held in 2010, many of them with an international character. This amply demonstrates the social aspects of the subject, because colour is both a personal perception and a shared experience. Notable events were 'Colour and Child' in Bulgaria (p.14), 'Colour in Graphics, Imaging and Vision' in Finland (p.17), 'Farbe in der Bilding' in Germany (p.19), 'Gumi International Color & Urban Design Forum' in Korea (p.24), 'IXth National Congress' in Spain (p.29), '11th International Conference on Color Design, Applications and Science' in Taiwan (p.32), and 'Color Standards' in the USA (p.34).

The five AIC Study Groups have been active during the year, and their reports (pp.37-41) indicate strong focussed activity in their various fields. Of particular interest is the experimental apparatus being developed by Dr Okajima for study of colour perception of the elderly (p.40). Through such research and communication the AIC is making valuable contributions to the global understanding of colour.

– Lindsay MacDonald, May 2011



Delegates to AIC 2010 on the steps by the waterfront at Mar del Plata, outside the Hotel Provincial (to the left).

Dear Friends,

It is a pleasure to communicate with you again in the yearly AIC Newsletter. Thank you all for your contributions on events during 2010, which will give ideas and inspiration to everyone about how we can create new approaches to and shine a light onto the importance of colour. This will in the end provide opportunities for the development of AIC to be a strong part in the international world of colour.

The AIC Interim Meeting on 'Color and Food: From the farm to the Table' was held in Mar del Plata, Argentina, in October 2010 organised by the Grupo Argentino del Color. The meeting gathered 202 participants from 26 different countries. I would like to express my congratulations to a successful meeting where we learnt a lot about the latest developments under the actual theme. I must say that this theme turned out to be much broader than my expectations.



At the art show reception at AIC 2010 in Mar del Plata.

Following the meeting in Mar del Plata we can now look forward to AIC Midterm Meeting 2011 which will be held in Zurich, Switzerland, 7-10 June with the theme 'Interaction of Colour and Light'. The subsequent meetings will be: 2012 AIC Interim Meeting in Taipei, Taiwan, 28 September – 1 October with the theme 'In color we live: Color and environment'. The next Congress will be in Newcastle, Great Britain, 8-12 July 2013. Japan has already offered to host the next AIC Midterm Meeting in Tokyo in May 2015.

Today we are 26 regular members and within the AIC executive committee we have placed emphasis on the agenda

for attracting new AIC member countries. This is a really important matter to be able to strengthen further the international position of AIC. I also think that the five AIC Study Groups are key to attracting new interest for colour science as well for AIC as a powerful colour organisation. These five Study Groups are: Color Education (CE) with Robert Hirschler as chair, Environmental Color Design (ECD) with Verena M. Schindler as chair, Visual Illusions and Effects (VIE) with Osvaldo da Pos as chair, Color Perception of the Elderly (CPE) with Katsunori Okajima as chair, and the newest is The Language of Color (LC) with Jinsook Lee as chair.

To introduce an international day of colour and light the 'International Colour Day' on 21st March is an idea that we hope that you all will contribute to. Just let your fantasy start and you will create memorable colour activities in your country: we will all be engaging in these colour actions all around the whole world on the same colourful day! We can celebrate the day with different activities such as:

1. Arts exhibitions, architectural design, decoration, fashion;
2. Meetings, debates, scientific events;
3. Workshops on colour and light for both adults and children;
4. Design competitions on colour and light;
5. Decide your identity colour and wear it on this day;
6. Put it on your web sites!

As we will need a logo to establish an image for the day of the international celebration of colour we will launch a design competition for its creation.

Since the previous Newsletter two electronic bulletins, the AIC e-news, have been circulated by email and are also posted on the AIC home page.

It is with great sorrow that I have to recall that our colour society, during this past year, has lost four most honoured members. Tom Porter passed away in April and Shigenobu Kobayashi and Emilia Rabuini left us in May. And just before Christmas, Susanna Bösch, President of pro colore in Switzerland, also departed. (See obituaries on page 9.) We will remember them all for their passionate work in colour and they will continue to inspire us in the coming days.

Finally I would like to encourage you all strongly to contribute with news, information and ideas to the AIC Executive Committee. Please send information to our AIC website (Verena M. Schindler), AIC e-news (Berit Bergstrom), AIC wiki workspace (Maria Musso) and AIC annual Newsletter (Lindsay MacDonald). By sharing in this way we can vouchsafe our collective importance as a world community of people fascinated by colour!

See you in Zurich,

Berit Bergström, AIC President

EXECUTIVE COMMITTEE 2010 – 2013



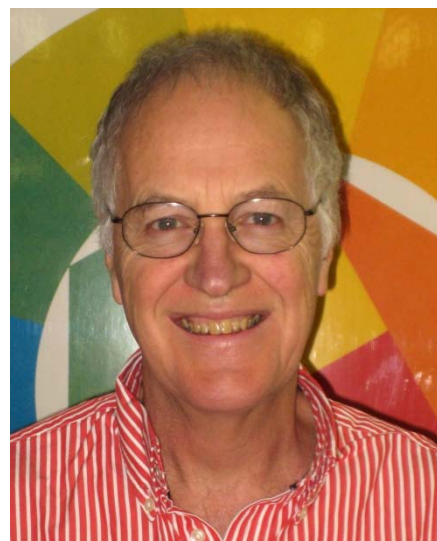
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Accounts for the period 1st January 2010 to 31st December 2010, prepared by the AIC Treasurer, Nick Harkness.

Opening Balance 1st January 2010	CHF
UBS	7,778.68
Cash	2,319.24
Total	10,097.92
Breakdown of transactions in the period	
1st January 2010 to 31st December 2010:	
Income from members (UBS): Electronic or Bank Draft	2,283.59
Bank interest:	-7.20
Bank fees:	-96.40
Income from members Cash (A\$200.06 @ CHF 0.9488)	189.81
Closing Balance 31st December 2010	
UBS	9,973.07
Cash	2,509.05
Total	12,482.12



Group photograph of delegates, AIC 2010, Gran Hotel Provincial, Mar del Plata, Argentina.

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Shigenobu Kobayashi, an Honorary Member of the Color Science Association of Japan, passed away on May 9th 2010 at the age of 84 after a long illness. It is very sad for us never to see his very active figure again. When I first met him at the 3rd AIC Congress (Troy, USA) in 1977, Noboru Ota, Yoshinobu Nayatani,

Mituo Ikeda, Sachie Minato, and Hiroaki Sobagaki were all together with us. He was active internationally, attending the AIC meetings every year from York in 1973 to Rochester in 2001. I once saw him talking with Faber Birren, smiling from ear to ear. He published 38 books, presented 30 papers, and lectured at every opportunity. In the west he is best known for his three beautiful pocket-books: *A Book of Colors* (1967), *Color Image Scale* (1991), and *Colorist* (1999). He had a brilliant character and charmed those around him.

Kobayashi was born on October 10th 1925, in Imabari, Japan, graduated in 1947 from Hiroshima College of Technology with a major in Electrical Engineering, and went on to study for a Master of Arts at Waseda University, with a major in psychology, which he completed in 1954. In 1966 he founded the Nippon Color and Design Research Institute (NCD), and developed the Hue and Tone System and the celebrated Color Image Scale for which he obtained a patent in 1982. He was a lecturer at the graduate school of the Musashi Institute of Technology. He was active in Japan in the CSAJ, and was made an honorary member in 2002. The Color Image Scale which he designed has been used nationally and internationally, which indicates his colour legacy to our society — Masao Yamagishi.



Emilia Rabuini, a much-loved member of the Argentine Color Group, died on 15th May 2010, at a young age, after a short and fulminant illness. She graduated as architect at the University of Buenos Aires, where she was also a teacher for some time. Following her inclinations as an educator, she founded and

directed the Pampa Center for Design, where colour courses were usually taught in the context of architecture, interior design, and related professions. Her special expertise was in urban colour research, implementing chromatic reconstruction projects for the Museum of Fine Arts in La Boca, collaborating in the searches for the Casa Rosada, and developing proposals for Casa FOA: Immigrant Landing and Convento Hotel St. Catherine of Siena, among others. For the paint company Tersuave, she developed a colour chart of the original palette of the neighbourhood of painter Martin Benitro Quiqueñeula. Emilia gave a memorable oral presentation at AIC 2008 in Stockholm on the historical colours of the La Boca neighbourhood in Buenos Aires. She was a member of the executive committee of the Argentine Color Group, as well as an active member of the organising committee for the AIC

Interim Meeting *Color and Food* held in Mar del Plata in October 2010. We will long remember Emilia for her projects, her paintings, her work related to the patrimonial chromatic values of the La Boca district, and most of all, for her marvellous qualities as a human being — José Luis Caivano.

Tom Porter, one of the most vividly colourful characters in the fields of architecture, colour and graphics, died on 3rd April 2010, aged 72. Tom was a prolific writer with over 20 books on the



subject over the past 35 years including *How architects visualise*, *The Colour Eye*, *Graphic Techniques for Architects* and *Archispeak*. I had the pleasure of writing our first book *Colour for Architecture* together with Tom in 1976, and 33 years later its sequel *Colour for Architecture Today* published by Francis and Taylor in 2009, only a year before he died.

We spent hours before 1976 at the White Hart, Old Headington, Oxford discussing the various contributions of famous architects, psychologists and colourists. Later, over the last 3 years in Abingdon Arms at Beckley, we considered critically how much colour architecture has changed over the years; a truly enjoyable and fruitful collaboration. Tom had an enquiring mind and a vision of what constitutes good architecture, art and writing. He communicated his ideas with the greatest ease. Jack Pringle, former President of RIBA, wrote recently that Tom will be remembered above all for “his magical easy manner that entranced students, architects, artists and many others”. Tom also helped to set up the successful Interior Architecture course at Oxford Brookes University. He travelled extensively, particularly to his beloved Florida, Montana and Lucca with his wife Dr Andrée Porter and architect daughter Holly. We will all miss Tom’s humanity, humour and colourful personality — Byron Mikellides.

Susanna A. Bösch passed away on 23rd December 2010, aged 42, after a short illness. She was a member of the managing board of pro/colore since 2008. Last spring she was elected as the first woman President since its foundation in 1992. Amongst her many functions for pro/colore she was a member of the



Organising Committee of the AIC Midterm Meeting 2011 and was a board member of the Tapetenforum. Since 2004 she ran her own company „farbe himmelblau“. As a colour designer holding a Swiss Federal Certificate and with her remarkable sense of colour and design she influenced her surroundings as well as the association. We got to know Susanna as a highly engaged person, her positive thinking and her hope of recovery meant that many were surprised by this sad news. Right up to her passing Susanna formulated many new ideas for pro/colore in the coming years — Eveline Staub.

AIC 2010 INTERIM MEETING – MAR DEL PLATA, ARGENTINA



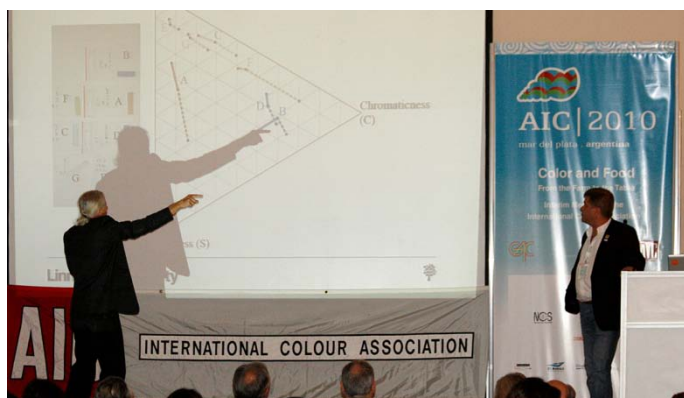
The AIC Interim Meeting 'Color and Food: From the Farm to the Table' was held at Hotel Provincial, in Mar del Plata, Argentina, 12-15 October 2010, organised by the Argentine Color Group. The final numbers were:

- 139 presentations: 90 posters, 49 oral (42 oral papers, 4 invited lectures, 2 pre-congress seminars, 1 sponsor talk);
- 202 participants from 26 countries: 97 Argentina, 19 Japan, 19 Spain, 9 Italy, 7 Taiwan, 6 Chile, 6 Sweden, 5 Brazil, 5 France, 4 United Kingdom, 3 Korea, 3 Netherlands, 2 Australia, 2 China, 2 New Zealand, 2 Portugal, 2 Turkey, 1 Canada, 1 Hungary, 1 Iran, 1 Mexico, 1 Russia, 1 Switzerland, 1 Thailand, 1 Uruguay, 1 USA.



Colourful floral calendar in Mar del Plata.

October 12th was devoted to the meeting of the AIC executive committee, two pre-congress seminars (by Dardo Bardier and Lindsay MacDonald), and the cocktail reception together with an exhibition of fine arts. The scientific sessions were developed during three complete days, 13-15 October. On the evening of Friday 15th a dinner with a tango show was offered to the participants, and finally on Saturday 16th there was an excursion to the hills and Laguna de los Padres.



Ivar Jung and Ole Victor of Linnæus University, Sweden, plotting glass colours in NCS coordinates in 'What is the colour of a glass of wine?'

The oral presentations were divided into thematic sessions on the following topics: Food colour and appearance; Psychological aspects of food colour; Colour in food packaging; Colour in food-related architecture; Food chemistry and colorimetry; Food colorimetry; Colour and food

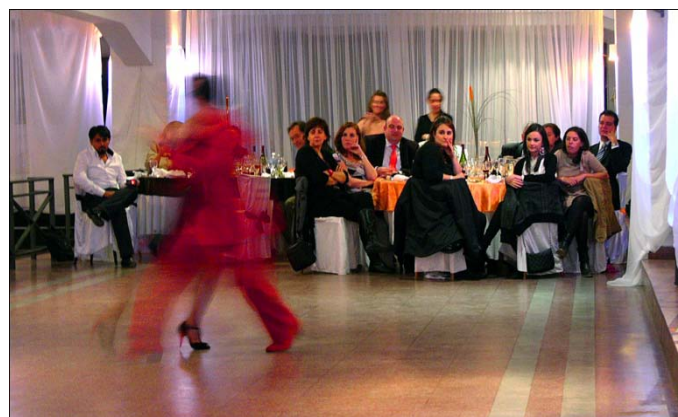
in arts and culture; Colour, food properties and preferences; Colour design in food environments; Colour and food in culture and language; Food lighting, colour imaging and appearance. Invited lectures were given by John Hutchings, Angel Negueruela, Verena M. Schindler and Daniel Lozano.

The 90 posters were arranged in 11 thematic groups. There were also three meetings of the AIC study groups on Colour Education, Language of Colour, and Environmental

Colour Design, one commercial talk, and an exhibition by the sponsoring companies: Osram, NCS, X-Rite, Verivide, D'Amico, Lovibond. Other sponsors of the Meeting were: National Agency for the Scientific and Technological Promotion (main sponsor), National Council for Research (gold sponsor), Gutenberg Foundation, Brapack, and the International Association of Color Manufacturers.



Cesia in reality: Daniel Lozano contemplating the posters.



After dinner, professional dancers showing how to dance the tango.

The Proceedings were published in both a CD and a printed book given to the participants (other interested people can buy them). The book of abstracts is freely available on the AIC 2010 website. There are plans for additional publications: 1) an agreement has been made with CRC Press (Taylor & Francis Group) to publish a book with a selection of papers on technological and psychophysical aspects of colour and food, in a more developed form; 2) other papers related to art and design will appear in a more extended form in a special issue of an international journal.

More information about AIC 2010 can be found at www.aic2010.org (including the prospectus of the meeting, the committees, the full programme, the book of abstracts) and at www.aic2010.blogspot.com (including pictures of the meeting, Powerpoint files of many oral presentations, information about the proceedings, and more).

– José Luis Caivano, Chairman, AIC 2010



The Argentine Color Group (Grupo Argentino 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 strong interest in the Group from the artistic community in the diffusion of their works. For further information: www.fadu.uba.ar/sitios/sicyt/color/gac.htm

Activities in 2010

During 2010 the GAC was devoted mainly to organisation of the AIC Interim Meeting on 'Color and Food', held in Mar del Plata, in October. The GAC visual arts group organised a fine exhibition during the reception cocktails, in the foyer of the Auditorium Theatre. The exhibition involved the following artists: Daniel Delgado, Emilia Rabuini, Daniel Yacubovich, Silvia Japkin, Larissa Noury, Victoria Pinto, Nora Cherñajovsky, Jorge Peirano, Adriana Bianchi, Jodi Sandford, Valter Gosti, Omar Burgos, María P. Giglio, María Luisa Musso, Gloria Antonioli, Cristina Manganiello, Silvia Barrios, and Antonio Auriti Primavera, who presented works in painting, woodcut, photography, installation, video art, and stained glass.



Visual Arts Exhibition at the opening reception of AIC 2010.

Future Activities

The GAC is pleased to announce that in 2011 will be published the new book by Prof. Daniel Lozano, *Visual Appearance and its Measurement*, in which he sets out the results of his wide research on the subject. Plans are underway for ArgenColor 2012, the 10th National Congress on Color, to be held in the city of Resistencia, Chaco Province, in collaboration with the Faculty of Architecture and Urbanism of the North-East National University, where the GAC also conducted colour meetings in 2007 and 2009, and which has signed an exchange agreement to facilitate joint activities and research.

Activity Reports from GAC Members

Cristina Manganiello participated with Eduardo Díaz and Sergio Rojas (National University of La Plata, Argentina) in the Workshop and Seminar 'Chromatic Contingency: Current Status of the Study of Color', Santiago de Chile, 2010, presenting the paper 'Color and who looks at it: 15 years of research on colour and visual communication'.



José Luis Caivano, Chair of AIC 2010 meeting, Mar del Plata.

José Luis Caivano: In addition to his great activities in the organisation of the AIC 2010 Meeting, during 2010 he was an Invited Professor, under an Erasmus Mundus grant, to teach the seminar 'Colour in Art and Design' in the European Masters CIMET (Colour in Informatics and Media Technology) programme at University Jean Monnet, Saint-Étienne, France. He was also an invited lecturer at the 9th Congress of the International Association on Visual Semiotics, in Venice, Italy on 'Chromatic synesthesias as visual rhetorical figures', and at the 9th Spanish Colour Congress in Alicante, Spain, on 'History of colour order systems developed in relation to architecture', video available at <https://zebra.cpd.ua.es/vertice/2460>

Silvia Barrios: The ceramicist Silvia Barrios carried out in 2010 an intensive research study of colour in ceramics. During April she presented a study concerning the colossal polychrome sculpture 'The 7000 Terracotta Warriors of Xian' at the National University of La Plata in Argentina. Field research led her to experiment with colour in clay and colour modifiers: pulping, burning alternative combinations of colouring oxides, firing atmospheres, temperatures, and technically recoverable in the style of the original cultures of Latin America.

In 2010 the GAC continued to participate in the organising activities of RESCA (Argentine Network of Scientific Societies).



María Musso, Omar Burgos, Berit Bergstrom and María Giglio welcome delegates to the AIC meeting in Mar del Plata.

AUSTRALIA



The meetings of our Colour Society of Australia and colourful endeavours across the country for the past year were both diverse and well attended, which has been encouraging for all our members.

CSA Western Australian division continued its creative programmes and invited local artists and members to discuss their own art works and methods during exhibitions. Another highly successful weekend in Albany with a workshop on colour relationships generated much exploration and discussion. The WA2010 Colour Day saw local speakers from the AIC Sydney 2009 Congress repeat their presentations. Colour Days and weekends have proven to be highly successful for this group.



CSA workshop in Albany WA, with Juliet Albany (green jacket) in spirited debate after arranging a set of plastic samples to demonstrate her theory that abrupt contrasts occur more commonly than smooth gradations in nature.

CSA Victoria division continued its joint meetings with other professional bodies. One Artisans Guild meeting included painting conservators from the University of Melbourne discussing fluorescent pigments. Another featured master decorator Derek Marvely showing his incredible craftsmanship and skill in marbling, special effects and wood graining on major houses and buildings in Victoria, many with heritage listing. Our meeting with Surface Coatings Association of Australia (SCAA) saw Russell Pemberton discussing the special pigments created to make dark coloured paint and surface coatings less heat absorbing. Two full meetings were held at the head office of CSA sustaining member Dulux Australia: the first was on the challenges of colour selection and control for passenger vehicles with speaker Chalissa Morrison from Toyota Style; the second meeting invited Sharon Rae, the principal of Fashion Forecast Services, to discuss the global business of colour and how colour is a fundamental part of marketing today for any manufacturer.

CSA Queensland covered eight diverse topics in 2010 in well attended meetings – personal colour, rocks and minerals, fashion and clothes Afghani style, the built environment, colour blindness, colour and light, synaesthesia, and inspiration for architectural colour. 'Kaleidoscopic Eyes', a

presentation on synaesthesia, was given by Professor Jason Mattingley of UQ's Brain Institute and Dept of Psychology who enthralled all present.



Multi-coloured furniture and fixtures at the new Argyle Bar, Sydney.

Our largest CSA divisional group is NSW, which in spite of much dismal cold wet weather, held a number of successful meetings in Sydney visiting trade showrooms viewing new products and systems. One wet and stormy night in September, a group braved the elements with the Australian Architecture Association and visited the newest and hippest city bars to see the latest in commercial design (so they claimed). Plans for a webinar hosted by CSA NSW are still on the table, an essential concept for this wide land we live in.

CSA Tasmania's meetings attracted attention from the community at large. Education in colour continues to create much interest locally and communication with local educators is growing steadily. Speakers for the year included an internationally renowned eye surgeon, a dry pigment artist, and an expert on the underwater zoology of the Tamar River. Membership numbers nationally are struggling, however with the forthcoming CSA bi-annual conference to be held in Launceston later in 2011, a hard working committee is confident that local memberships will increase particularly with the strong programmes planned.



Françoise Esterhazy (in colourful jacket) speaking to CSA Queensland members on her colourful garment collection amassed over thirty years from North India and Afghanistan.



ASSOCIAÇÃO PRÓ-COR DO BRASIL

The mission of Associação Pró-Cor do Brasil is to promote research, advice and disseminate the knowledge of colour in art, science and production processes, focusing on physical and aesthetic properties, taking into account that colours provide well-being and quality of life.

In 2010 Pró-Cor held a series of meetings and lectures: notably 'Color power and influence' at Associação dos Advogados de São Paulo – Color and Culture Week. The environment of the largest lawyers' association in Latin America was set by an exhibition of paintings, sculptures, film projections, a theatrical performance, colour therapy sessions and a concert with the Brazilian singer Bruna Caram. The initiative called attention to the implications of colour and legal issues. The highlight of the week was a roundtable with Cezar Peluso – Minister of the Supreme Court of Justice (STF).



The Brazilwood tree, used since medieval times for its red dye.

The beginning of spring is marked by celebrations and the colours of nature always exercise fascination in Brazil as the name of the country is derived from a native Atlantic Forest tree: Pau-Brasil (Brazilwood) from which a red pigment was extracted and started up the economic activities of the early Portuguese explorers in Brazil. On 21st September tributes to life and colour were given on The Tree Day and Brazilian Color Day - extending the celebrations realised on 21st March: The International Color Day. Pró-Cor, in partnership with Mundo Cor and the EIS – Bela Vista / Associação Novolhar – launched in the traditional neighbourhood of Bixiga the São Paulo plus Beautiful Movement, which was honoured with the presence of The President of Associação Portuguesa da Cor (APCOR) Maria João Durão and Professor José de Almeida Moura.



'The Colors of Brazil in view of the World: care, conservation, revitalisation and welfare promotion' was the theme of The Fifth Brazilian Meeting of Colors (23rd September), held during FEITINTAS/2010 with support of the Sindicato das Indústrias de Tintas e Vernizes do Estado de São Paulo.



The Brazilian Meeting of Colors: (left to right) Paolo Felix, Mon Liu, Joao Carlos de O. Cesar, and Maria João Durão.

Mon Liu (Professor of Design at SENAC) gave a talk on 'Color Trends for the Harmonisation of Environments'. Professor Dr Joao Carlos de O. Cesar from Universidade de São Paulo (USP) spoke on 'Color in Architecture'. Professor Dr Maria João Durão from Universidade Técnica de Lisboa graced the event with her lecture 'Architectural Color and Identity'.

In October Pró-Cor was involved with colour trends in the first Latin American meeting of the Color Marketing Group (CMG), held in Brazil with the support of Lukscolor Tintas.

In the successful AIC Interim Meeting 'Color and Food' held in Mar Del Plata, Pró-Cor was represented by Dr Paulo Felix, with the paper 'The control of animal stress and welfare with measurements of skin variations', a new field of application of colorimetry in applied psychology, and by Dr Paula Csillag, with the oral presentation 'Food package chromatic design', an analysis from the viewpoint of visual perception.

Pró-Cor members participated in a special interview about colour in the broadcast Almanaque Brasil on TV Cultura. There was also involvement of Pró-Cor in a broadcast about colour presented by Claudette Troiano on TV Gazeta. A report about colour in traffic was exhibited on Auto-Sport's TV Globo. There was also a series of interviews for a book edited by Casa-Claudia magazine, among a host of other colourful activities.



September 21st – Pró-Cor in partnership with Mundo Cor launch the movement 'São Paulo plus Beautiful'.

ГРУПА ЦВЯТ БЪЛГАРИЯ COLOR GROUP BULGARIA

In 2010, all the events conducted by the Bulgarian Color Group were placed under the sign of the 30th Anniversary of the establishment of our Group. The main event on March 21, the World Colour Day, was the solemnly held General Assembly of the members of the Group, where the history and main achievements across the years were presented. In connection with the 30th Anniversary, a full bibliography of the publications of the Group, including proceedings, articles, studies and information materials was compiled, and will be published in 2011. Also a photo album was produced, with the cooperation of members, to complete the historical reference concerning the activities of the Group. This album will be also published in 2011.

Scientific forums

Two scientific and practical workshops were held on the theme of 'Colour in all directions' at the invitation of the Varna Free University 'Chernorizets Hrabar', in May 2010, and of the New Bulgarian University, Sofia, in December 2010. Specialists of the Group presented the problems of the present day in colour science research.

The Second National Workshop on 'Photocolor', in association with the Technical University of Sofia, in November. The accent was on practical achievements in the domain of colour photography. Authors' research activities were also presented.

Publications

In 2010, the Group published, in two separate electronic issues, the Proceedings of the National Conference 'Color and Child' (ISBN: 978-954-92092-4-2, cover design by Dina Dobrevska, drawing 'Circus' by Victoria Patronska (aged 6), and the Second Volume of the 'Photocolor' series (ISBN: 978-954-92092-3-5, cover design by Svilen Gavrilov).

The series 'Electronic library – Color' was completed by the electronic version of the study 'Interpretations in color', by Maria Evtimova. The book was officially presented to the Bulgarian National Library (St. Cyril and St. Methodius) in November. Knowledge of colour is the foundation for different improvisations, enables various techniques and forms of expression, and helps to stimulate the creative act. This edition examines the manifestation of colour in multiple themes, as research problems are illustrated with appropriate schemes, photographs and reproductions of works of art. Included are original works inspired by the problems of study.

Two issues (Nos. 21 and 22) of the Bulletin of the Bulgarian Color Group were published. The Proceedings of the Workshops held with the Varna Free University and the New Bulgarian University in Sofia will be published in early 2011.

Colour and Child Conference

A National Scientific Conference with international participation, was organised jointly with the National Academy of Art in Sofia in June. Oral presentations dealt with issues of colour, orientated to the development and education of rising generations, together with the creation of a specialised colour environment for children.

Project I Preferences of different age groups toward colour, as observed in the 'Children's Workshop' during Sofia Design Week, by Iliana Gikova-Galabova. Children



aged 2½ to 10-11 years had to build carton houses, castles and towers, and to decorate them according to their will.

Project II Basis and Pointillist Method in the training of children, by Iva Vladimirova. The method involves the creation and building of a visual image, in education on figurative arts, addressed to children. The high percentage of excellent results of its systematic and active application have proven its value in the author's pedagogic system.

Project III Color and Child – working with handicapped children, by Mariana Lyubomirova Nenova. The author works as teacher of drawing in a European project on socialisation of children with cerebral paralysis. The children's drawings were exhibited at the Bulgarian Red Cross, and many have been included as illustrations in a book of essays: *Let us change the world of children together with children*, edited in Sofia, as a result of a contest conducted by the Bulgarian National Committee for UNICEF.

Project IV Colour Aspects of Architecture in children's creative work, by Ralitz Gueleva-Tzetskova. The research focuses on Children and Town – the heritage for future sustainable development. The works of young artists aged 5-12 were exhibited in June 2010 under the title *Sofia is my town*. Children developed various colour themes, transforming what they had seen, heard and learned about the rich history of their town. One of the works, 'The Circus' by Victoria Patronska, aged 6, part of the 'Entertainments in Our Town' cycle, was chosen as the Conference's thematic design and for the CD label.





ASOCIACIÓN CHILENA DEL COLOR

The Chilean Color Association was officially presented on 10th September to a wide artistic and business public in a big event in Valdivia, with abstract live music and a beautiful light performance in the modern building of the Architecture School of Universidad Austral de Chile. We showed the new ACC website, announced future activities, and invited everyone to join as members.



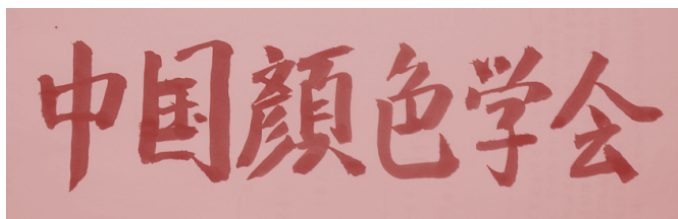
The outstanding national artist Eduardo Vilches specialised in colour at Yale University, in 1965, under the influence of Sewel Sillman, the associate of Josef Albers. He has trained numerous Chilean artists during decades in the areas of engraving and colour. Therefore, the Workshop on Color organised by the Universidad Austral de Chile and held in 6-10th September in Valdivia, was of incalculable value to local artists, designers and architects.



A Seminar 'Contingency, the actual development of Chilean colour study' was focused on establishing the actual panorama of Chilean colour knowledge, through the interchange of experiences, colour researches and studies. To instantiate this chromatic panorama, the Seminar on 3rd December included: a colour workshop, six oral presentations and an exhibition of 25 posters. The day ended with a discussion panel, and the announcement of some future activities of ACC. The Seminar took place in Santiago, and was organised by the Santiago Colour Group, Proyectacolor and Estudios del Color, and sponsored by the ACC. This event proved that the Chilean colour scene is growing fast: more than 450 people attended.



Colour is an important aspect of our daily lives. It is particularly prominent in the architecture and landscapes which occupy such a significant portion of our environment. A friendly atmosphere can enhance people's quality of life and this can be partially achieved by giving buildings the appropriate colours. The ACC participated in a project called 'Together in a dream of colors' funded by the Universidad Austral de Chile (UACH). This involved colour design for 64 low-income housing units and was developed through workshops including students from UACH's Schools of Architecture and Anthropology and the residents. People worked together over a 4-month period carrying out a colour study involving interviews, drawings, and photography. The project outcome was a new neighbourhood with its own special colours, chosen and designed by the college students, with participation of the residents of the units.



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



The opening ceremony of the 2010 symposium of the Color Association of China together with the annual conference of the Chinese Optical Society.

Events in 2010

(1) The 2010 symposium 'Color Science and Imaging Technology' of the Color Association of China was held on 23-26 August in Tianjin, together with the Annual Conference and 30th Anniversary Ceremony of the Chinese Optical Society. Topics in this symposium included colour vision and colour-difference evaluation, colour measurement, LED colorimetry, colour imaging technology, etc. Delegates came from Zhejiang University, Donghua University, Beijing Institute of Technology, Tianjin University, Beijing Institute of Graphic Communication, National Institute of Metrology China and other related organisations. Many students participated in the meeting to learn about the latest developments and to exchange their understanding of research issues. By revelation of the important advances in this field, the participants had a chance to learn the current state and future directions for applications of colour science and imaging technology.



Assembly of the International Forum of Color Design in May 2010.

(2) The International Forum of Color Design took place in Changzhou city of China on 28-30 May, attended by more than 500 participants from different countries.

(3) The First International Design Competition of Dress and Trappings for Young People was successfully held in September. Several international experts were invited as members of the judging committee, and the papers came from different countries and regions around the world.



Award celebration of the First International Design Competition of Dress and Trappings for Young People in September 2010.

(4) The seminar of Traditional Color and Modern Application by the inter-straits of China was held in the beautiful city of Xiamen on 2-3 November. About 150 experts and scholars attended this meeting from the management, research organisations and industries in both the mainland and Taiwan regions of China.



Some of the participants gathered at the seminar of Traditional Color and Modern Application by the inter-straits of China.



The assembly room of the seminar of Traditional Color and Modern Application by the inter-straits of China.



SUOMEN VÄRIYHDISTYS

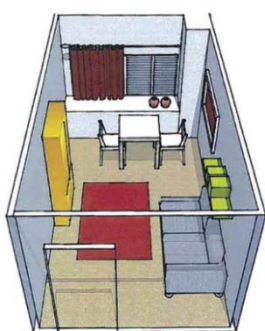
The Finnish Colour Association was founded on 24th September 2002 at the University of Art of Design Helsinki (now Aalto University School of Art and Design). The Finnish Colour Association is a corresponding member with the Pattern Recognition Society of Finland.

Activities in 2010

The FCA collaborated with the CGIV conference in Joensuu, Finland in June, and FCA members participated on 21st January in the *Seeing Red* symposium (a follow-up to the *Feeling Blue* symposium held in 2008). This was organised by researchers in the Media Lab of Aalto University School of Art and Design. Talks covered a wide range of subjects concerning colours and digital media: How to select colours with colour blindness in mind (Kirsikka Vaajakallio); Colours, aesthetics and values (Sonja Ilanen-Tähkävuori); Computer vision and the future of imaging (Akira Sano); Applications of spectral colour research (Markku Hauta-Kasari); Colours in context – the relativity and constancy of colours (Harald Arnkil).

Harald Arnkil gave a talk 'Colour, Light, Space: Research of Perceptions and Interactions' at the Finnish Society of Architecture on 13th April. His article 'Why does Finnish architecture renounce colour?' was published as the leading article of the *Finnish Review of Architecture* 3/2010. Lauri Niemi wrote a collection of articles on colour in the urban environment in *Väri ja Pinta* 5/2010 (a professional magazine of colour and surface technology) and also contributed articles on colour to several web forums.

Harald Arnkil gave a talk entitled 'Colour, Emotions and Reality – in search of the sources of the harmony and expressiveness of colours' at the autumn seminar *Empirical*



Aesthetics of the Finnish Society of Aesthetics. His close collaboration with Swedish colour colleagues continued and deepened through participation in the Nordic research project SYN-TES. Criteria for how different aspects colour and lighting design affect spatial experience, functionality and energy consumption have been formulated by the SYN-TES seminar group, led by

Karin Fridell Anter in Stockholm. A full scale experimental room is planned, based on these criteria.

The Executive Committee met three times in 2010. The annual meeting of the association was held on 23rd September at the Aalto University School of Art and Design. After the official protocol Martti Huttunen gave a talk on 'Red-Green Colours' and Lauri Niemi presented three examples of colour in contemporary urban design. After eight years in office, Harald Arnkil withdrew from the Executive Committee's presidency in order to concentrate on his doctoral research. The annual meeting elected Martti Huttunen as the new president.



Visitors in a colour lab in Joensuu during CGIV 2010 Conference.

A highlight in the year 2010 in the Finnish colour science calendar was the hosting of the European *Colour in Graphics, Imaging and Vision* (CGIV) Conference 14-17 June at the University of Eastern Finland, Joensuu Campus. The conference attracted over 100 colour researchers, mainly from Europe, to share their latest research results. An essential part of the meeting was the social programme, which provided a number of opportunities for networking in a relaxed environment, most notably in a Finnish sauna.

In the Joensuu Colour Group the research activity is divided into spectral colour science and applied research. Applications with the wood and paper industries are important in Finland. There are several collaborative projects with industry, e.g. lumber grading based on spectral imaging. The other field of application, of increasing research importance, is medical imaging. Two new developments are the spectral eye fundus imaging system and the spectral neurosurgery video link.



International activities are directed mainly to Japan and some European countries. In 2010 cooperation with Japan was strengthened when two double-degree agreements at PhD level were signed between the University of Eastern Finland and Chiba University and Toyohashi University of Technology.

Finland is strongly involved in European Colour Science education, since the University of Eastern Finland is a member of the consortium running the Erasmus Mundus MSc Programme 'Colour in Informatics and Media Technology' (CIMET), coordinated by the University of St Étienne, France.



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 both national and international levels, through enhanced communication and cooperation between those of all disciplines and professions involved in the culture of colour. The CFC makes available to its members various means of communication: an Internet site (all reworked in 2010 by Laurence Pauliac, our Secretary), seminars, colloquiums, published reviews, etc. Newsletters about colour activities and news are frequently sent to the members, and from one to three issues of *Primaires* (in reference to primary colours), a complete magazine on colour, are published each year.

2010 was rich in colour meetings as we organised two public events with lectures and discussions.



Our first colour meeting in February was the occasion to listen to lectures by Bernard Valeur (Professor of Physical Chemistry), Marcel Benabou (Writer and Historian), Tristan Bastit (Artist), George Orrimbe (Artist), members of Oulipo and Oupeinpo, and François Bossière (Artist and Art Historian).

Our second meeting «Couleur Mentale-Concrète», was in May in collaboration with ad chroma. Three lectures (Michel Indergand, chromatologue, Georges Roque, philosopher and art historian, and Pierre Bonnefille, designer) and two book presentations took place (*Science de la couleur: aspects physiques et perceptifs* by Robert Sève, physician, and *Le Noir*, by Annie Mollard-Desfour, linguist at CNRS, French National Centre for Scientific Research, who is our President).

As every year we also took part in eclectic events:

- The co-organisation of the annual «École de Printemps» (Spring School) in Roussillon, on «Couleur, une question d'échelle: le temps», in partnership with the CNRS (French National Centre for Scientific Research) and OKHRA company, with lectures by Barbara Blin-Barrois, Michel Blay, Robert Sève, Patrick Callet and France Cler.
- «Chromatiques» in Fos-sur-Mer (South of France), an annual festival around colour. In 2010 the colour was 'pink'. Lectures Guy Lecerf, Marie-Cécile Bauchet, Annie Mollard-Desfour, Patrick Callet. Exhibition Martine Royer-Valentin.
- AIC Interim Meeting 'Color and Food: From the Farm to the Table' in Argentina. With lectures and posters of members.

CFC members were invited to many events in France and worldwide to give lectures and present their work. Some artist-members also had exhibitions showing their work.



Visit to the weaving room at the Manufacture des Gobelins, Paris.

In a spirit of *entente cordiale*, we organised with colleagues from The Colour Group (GB) a visit to the Manufacture des Gobelins and a colour meeting 'Colours and textiles: from past to future' (June 28) with a keynote lecture by Georges Roque on the significance of the work of Michel Eugène Chevreul.

During summer, many members contributed to «Lumière sur la Couleur» in Château de La Roche-Jagu, Côte d'Armor (exhibition and lectures). A book about this event was published: *Lumière sur la Couleur* (Ed. de Monza, by Céline Caumon, Jean Le Rohellec, Annie Mollard-Desfour, Pilar Sàez-Lacave, Catherine Vadon, Bernard Valeur and Anne Varichon).



'Lumière sur la Couleur', a colour event to which many CFC members contributed.

Other books published by CFC members in 2010 are:

De Coloribus Libellus Petit Traité des Couleurs Latines, by Antonio Telesio de Cosenza, with preface and comments by Michel Indergand, translated by Christine Viglino, École Estienne, Collection 'Les Inédits d'Estienne', 2010.

Le Noir: Nouvelle édition du volume de la série de dictionnaires de la couleur, by Annie Mollard-Desfour. Mots et expressions d'aujourd'hui, XXe-XXIe siècle. CNRS Editions.



The Technical University of Darmstadt hosted the 36th annual three-day conference of the DfWG, 6-8 October, entitled 'Colour Science and its

Application in Industry'. The event was led by Prof. Edgar Dörsam, Institute of Printing, and Prof. Tan Quoc Khanh in the Special Field of Lighting. Ingmar Lissner and Philipp Urban described research of the colour group at the Institute of Printing. Stefan Brueckner presented the results of recent field studies on psychology of perception concerning the quality of light and colour in indoor illumination.

A study of differences in measurement systems for classifying standardised light-booths for visual inspection was published by Andreas Kraushaar. The use of multispectral cameras in quality systems was addressed by Stephan Helling. Andreas Hoepe from the PTB (German National Metrology Institute) reported on the traceability of diffuse standards for reflection measurements in multi-angle geometries. Colour sensations of large area colour stimuli were examined by Peter Bodrogi. Katharina Kehren presented the results of her study on multi-angle spectrophotometers. The presentation of Georg Meichsner about the DIN 99 formula was followed by a long and vivid discussion of its application in the real world.



colleges, universities, and adult education facilities joined the discussion about cultural education. The objective was completely achieved by research papers, project-related reports and workshops: reaching transparency of knowledge transfer within the whole chain of education from pre-school up to professional training and university studies.

During *Farbe in der Bildung*, a topical field of tension between science, arts, and design developed. No longer was knowledge about colour put at the centre of pedagogic action and didactical discourse, but the ability to "communicate through colour". The necessity of life-long learning and of interdisciplinary discourse made itself clear to all participants.

To accompany the conference a large topical exhibition was held in the Volkspark Halle. Artistic experiments and installations on the subject of colour were presented which all visitors could experience through direct interaction. A special focus was placed on new photometric and optical developments which communicated both aesthetic and technical contents of education and values to visitors. Art and design thereby presented themselves as self-evident parts of the research field of colour, from which emerge ever new impulses for the cultural evolution of society.



In preparation for the conference the DFZ held an international contest titled '3x3 = Blue – Innovative ideas for the use of colour in pre-school and school education'. Through this unique survey of pedagogic practice regarding the field of colour, both the strengths and weaknesses of concepts and methods were exposed. The award-winning concepts from the different sections were published on almost all education servers and in many professional journals in the German-speaking area.

During the conference, the Karl Miescher Prize was given to the Gymnasium Winfriedschule in Fulda for its work 'Deutsche Teilung. Deutsche Einheit. Bilder und Gedanken.' (German division. German unity. Images and thoughts.)

Read more: www.deutsches-farbenzentrum.de



Prof. Axel Buether presents the Karl Miescher Prize.



Michael Petersilge receiving his 20 years of DfWG-membership certificate from Dr. Gerhard Roesler, President of DfWG.

During two informal dinner meetings in the evenings of the annual DfWG conference time was given for scientific and practical discussions, as well as for networking without boundaries of age and/or field of expertise. The opportunity for younger scientists and students to meet informally with veterans of colour science always turns out to be a welcome and fruitful addition to the pure scientific programme.

The international conference *Farbe in der Bildung* (Colour in Education) was held 29-31 October, organised by the Deutsches Farbenzentrum (DFZ), Burg Giebichenstein University of Art and Design in Halle and the Dept. of Design at Martin-Luther University in Halle-Wittenberg. More than 400 educators, teachers, professors and lecturers from pre-schools, primary and secondary, special needs schools,

GREAT BRITAIN



In Britain tradition is perceived as important and in The Colour Group (GB) we always start the year in January with a meeting on colour and vision at the Institute of Ophthalmology in London. In 2010 the Palmer Lecture at this meeting was given by Prof Don MacLeod from San Diego and the CRS sponsored lecture by Prof John Mollon of Cambridge. In

February, Dr Arthur Tarrant showed many of his now famous colour demonstrations in which all kinds of objects are made to look very odd under various types of lighting. The high light, so to speak, was when he dealt with skin colour by illuminating a model with theatre lanterns.



Arthur Tarrant demonstrating the colour rendering of skin.

In March the Chairman, Andrew Hanson, presented the Colour Group's Newton Medal to Prof János Schanda of the University of Pannonia, Hungary, in recognition of his lifetime of outstanding contributions to colorimetry and the CIE. The meeting at University College London included the annual W.S. Stiles lecture, given by Qasim Zaidi.



Except for the AGM in May, the summer months saw all our meetings away from our home base at the City University, London. In July we visited Woolthorpe Manor in Lincolnshire, the birthplace of Sir Isaac Newton. We saw the room where he performed his celebrated prism experiments. In the garden is the place where tradition has it that a falling apple caused Newton to 'discover' gravity – and yes, the original apple tree is still there, or at least (so they claim) a tree that regrew from the root after the original tree was struck by lightning.

In June we held our first meeting abroad at the Manufacture des Gobelins in Paris, in association with the Centre Français

de la Couleur. We saw weavers making tapestries on the ancient looms to contemporary designs. Then we went behind the scenes to the dyeing workshops and the Colour Chart N.I.M.E.S. where over 30,000 colour samples of fibres were quantified and held for reference. This meeting was the pinnacle of the year: a chance to see the old colour traditions alongside the new high-tech methods, still performed in the quaint labs that must have been set up by Chevreul himself.



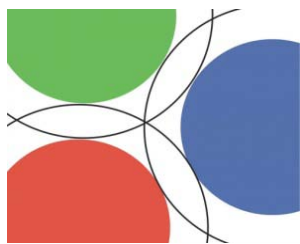
Chevreul's dye colour laboratory at the Gobelins factory

October found us again away from home, at the National Physical Laboratory, celebrating the 50th anniversary of the operation of the first laser. The old NPL site with many ancient buildings has given way to a vast modernistic complex, the very opposite of the historic enclave of les Gobelins. From the high technology of the laser, we moved in November to consider how creativity is manifested through artists and designers, whether in graphics, fabrics or jewellery.



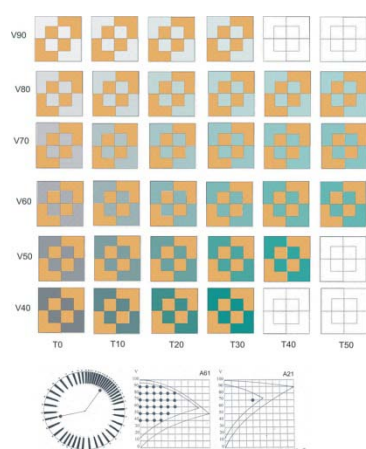
Sara Moorhouse wears a striking red and green necklace made by John Moore.

The year ended with a meeting on mapping colour names including a keynote lecture from Prof Jules Davidoff (Goldsmiths College, London) and talks from three of the W.D. Wright Award winners who delivered the presentations they had given abroad, their travel being supported by the awards. Overall, it was a year of interesting meetings, upholding the old traditions of the Group and perhaps establishing a new tradition for meetings outside the United Kingdom.



The Hungarian National Colour Committee was founded in 1969. Its expert committees include: Colour Classification, Colour Vision, Colour Representation, Colour Measurement, Colour Environment Design, Colour Psychology, Colour Training, and

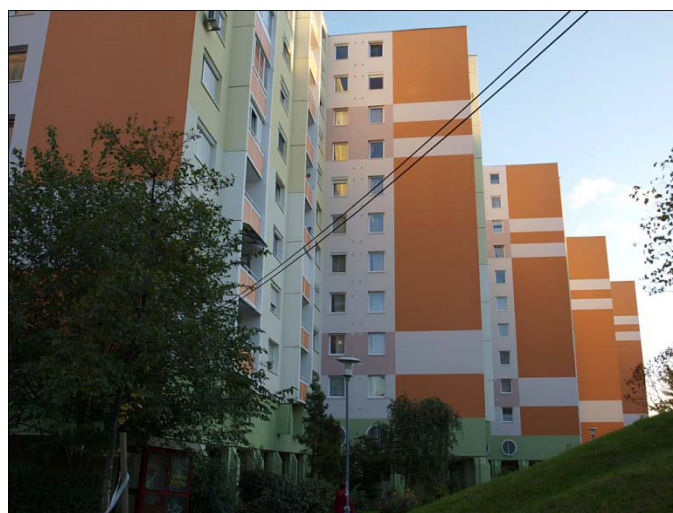
Colour Application. In 2010 the Hungarian Synaesthesia Society was established as an independent legal entity. The members of this Society comprise on the one part persons experiencing different sensations, such as colour experiences when exposed to certain stimuli, e.g. acoustic; on the other part they are different researchers investigating this phenomenon, such as neuroscientists, musicologists, colour researchers, painter artists, psychologists, etc.



Large scale colour harmony experiments were conducted for different colour compositions. Some of the experimental results were published in the online edition of Color Research and Application, entitled: Nemcsics A, *Experimental determination of laws of colour harmony: Part 5. The Harmony Content of the Various Hue Triads.*

Within the Hungarian Colour Committee the different Societies have arranged numerous events in 2010, the most prominent being: an art exhibition *Colour in the Fine Arts* at the Town Gallery in Keszthely, and the Symposium *Lux et Color Veszpremiensis* about colour in Information Technology held at Pannon University, Veszprém. The nationwide programme 'Researchers Night' gave the possibility to acquaint the general public, first of all the youth with the designing of colour environments and the culture of lighting. Lectures were held on colour harmony, with reference to the colour design of the Castle District of Buda which has been awarded the first prize in an international contest.

Within the framework of View-Point Action not only were the most recent research achievements shown, but visitors could also participate in different scientific experiments or investigate colour relationships in 'creative workshops'.



Colour design of panel construction house in District XVIII Budapest.

Members of the Committee, including architects, artists, painters and sculptors, took part in the colour design programme for the nationwide reconstruction of concrete panel construction houses.

At the Virtual Environments and Imaging Technologies laboratory of the University of Pannonia (VEIT-UP), the main research fields were the colour matching functions, colour rendering and the colorimetry of LEDs. An improved set of colour matching functions (CMFs) has been developed and verified by visual experiments conducted with different RGB- and p-LEDs. This result produces ten times better agreement between visual and instrumental colour matches as compared with the original CIE CMFs. For colour rendering a test method for colour fidelity has been elaborated and new sets of metameric colour samples developed that enable unambiguous classification of different light sources. LED arrays with proper cooling have been constructed, and LED aging experiments performed, preparing the way for lighting standards of high reliability. In this way Hungarian research is making a significant contribution to colorimetric science.



Inauguration of the Art Exhibition 'Colour in the Fine Arts' at the Town Gallery in Keszthely, with Prof. Antal Nemcsics (centre right).



**Associazione
Ottica
Italiana**

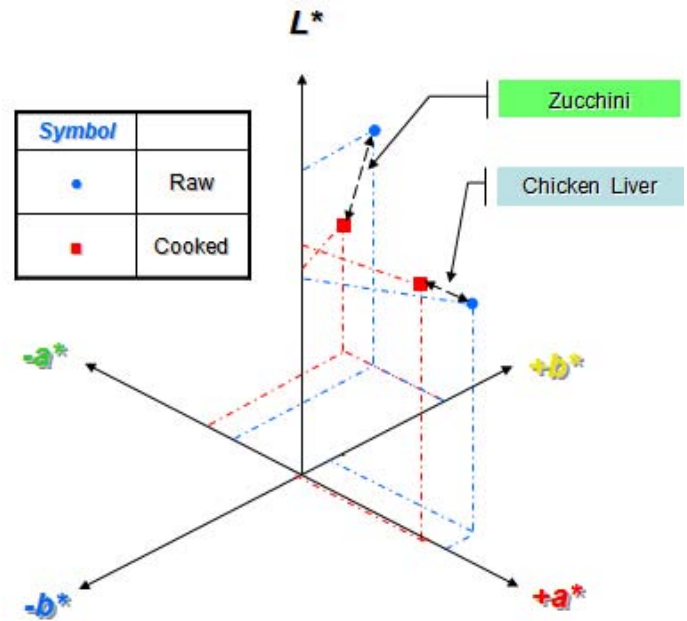
The AOI has decided to emphasise the activities and philosophy of AIC, by transferring knowledge to locally interested people:

A) The educational problem Apart from specific updating courses for specialists, priority is given to beginners. In spite of the advances in Vision Science, teaching programmes persist where visual trichromacy is called into question by assigning an improper role to Young; vision and colorimetry are mixed by calling into play Maxwell's triangle; trichromacy is directly related to colour appearance, the Principle of Univariance is generally overlooked, etc. The colour opponent organisation and arrival of signals to the visual cortex are quoted, but the frequently met sentence "We do not yet know why we see colour" is often misunderstood.

B) The task force Basic assistance is offered by the AIC tutorials. In matter of highlights, let us recall in particular that of Lindsay MacDonald at AIC2010, on the correct utilisation of physical concepts, and that of Diane Smith at AIC2009, where various perceptual facts were logically organised. A guide for further reading is being compiled, including the book *Vision, Light and Color* by Arne Valberg (2005), *History of trichromacy* by John Mollon (2003); a paper by Giordano Beretta and Nathan Moroney, for the systematic colour structure from theory to colour naming (SPIE, Vol. 7866, Jan 2011), and so on. Educational programmes should include the principles underlying the nowadays ubiquitous 'smart phones' to understand prosthetic substitutes for the visual system.

C) Modern experimental approaches For various reasons some people need concrete results concerning vision. Accordingly we offer the opportunity of taking part in broad experiments where various features are conjoined, interact, and a global response is needed. For this we refer to the topics posed by AIC for interim meetings, and covered globally in its quadrennial Congress.

C1) Year 2010 was devoted to informing about the Colour of Food. Our assessment is being extended of the differences



Towards a three-dimensional prototypical colour space.

between prototypical (long term memory) colours of some foods, raw and cooked, presented at AIC2010 (thanking again the world authority John Hutchings for his generous advice). The figure above and the AOI website show Luca Mombelli's colour space visualisations. An interest group is investigating whether some peculiar hedoning effects, described in Hutchings' book *Food Colour and Appearance*, have a counterpart in peculiar paths across the visual space, by considering also recent studies on the intrinsic variability of internal representations, and doubts about the traditionally defined prototypes.

C2) In the literature it is stressed that perceived colour is established both locally and contextually, in terms of the spatial distribution of feature contrasts. The papers to be presented at AIC 2011 will tackle the related light-colour interactions. Our experimental quantification (figure below) is referred to colour and light dependent interactions occurring in an annulus of 10° to 30° from the fovea.



Feature contrast and patterning influence the lightness of a test, at various eccentricities, also affecting the circadiancy of visual behaviour on the ordinates, s_1-s_2 , denoting interactive fluctuation of the local dependence of lightness on the local change in eccentricity.



2010 Annual Meeting

The 41st Annual Meeting of the CSAJ was held 14-16 May at the Nagaragawa Convention Center in Gifu Prefecture. More than 300 participants attended from various fields of colour research and applications; 40 oral and 26 poster papers were presented. During the meeting, there were several public lectures and tutorials for publicity activities.



Annual meeting poster presentations



Benham's disk tutorial for junior high-school students

Nayatani Memorial Symposium

A Memorial Symposium for Yoshinobu Nayatani was held at Keio University on 11 December. More than 100 participants attended. Dr. Nayatani, who made significant contributions to the development of colour science, passed away on May 29, 2009 (see obituary p.9). This symposium was intended not only to take a retrospective glance over his personality and scientific achievements but also to discuss future prospects of colour science. After six invited lectures by researchers closely associated with him, a panel discussion about the future of colour study was held by promising young researchers.

Awards

3rd CSAJ Best Paper Award:

Shoji Sunaga and Hideyuki Tanaka, 'Influences of hue difference and element size on global color impressions of two-colored textured patterns', *J. Color Science Assoc. Japan*, Vol. 33, No. 3, pp. 230-238, 2009.

14th CSAJ Research Encouraging Award:

Nozomi Sakaki (Ricoh Company Ltd.)

1st Indo Taro Prize:

Yoko Mizokami (Chiba University)

2010 CSAJ Presentation Encouraging Prize:

Harumi Saito (NTT Corporation)

Ken Nishino (Toyohashi University of Technology)

Local Branches and Study Groups

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

Publications

The Journal of the Color Science Association, Volume 34, Numbers 1-4 and Supplement, were published. CSAJ News was published bimonthly.



Yoshinobu Nayatani Memorial Symposium 'Aiming at new colour study' (11 December 2010)



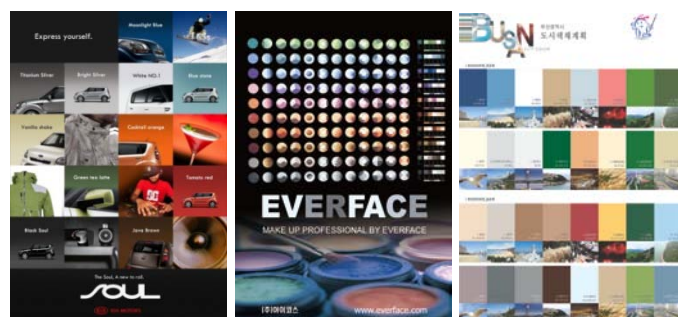
KSCS is a colour organisation with research capability. It was founded on 22nd April, 1988 under the name of 'Korean Association of Color Studies'. In the same year it hosted the AIC Meeting in Seoul. Through the spring and autumn academic conferences each year, KSCS has developed into an in-depth academic organisation in the colour field through studies and exchange of professionals. In April 2008, the Korean Society of Color Studies Foundation and the Korea Color Design Society were unified, leading to the re-birth of the Korean Society of Color Studies with an extension of its scale and in-depth academic studies. In 2010, KSCS broadened its scope in colour-related activities to hold international forum events together with local governments.



Regular Activities

KSCS undertakes the following activities on a continuous basis in each annual session.

1. Hosting spring and autumn academic conferences:
 - Various seminars and workshops in spring;
 - Foreign exchange-oriented academic in fall.
2. Hosting Korea Color Awards (2003-present):
 - Recognising colour outcomes that have become issues with the value of present social research.
3. Hosting international invitational exhibition (2008-present):
 - Exhibit colour works of overseas and domestic artists;
 - Exhibit creative works applicable to the theme of yellow.
4. Commencing colour education material and certification:
 - Certification business to enhance domestic publications;
 - Material for certification of colourist qualification test.
5. International forum and colour experiment exhibition:
 - Forum with domestic and overseas color specialists;
 - Colour experience exhibition with experiments.



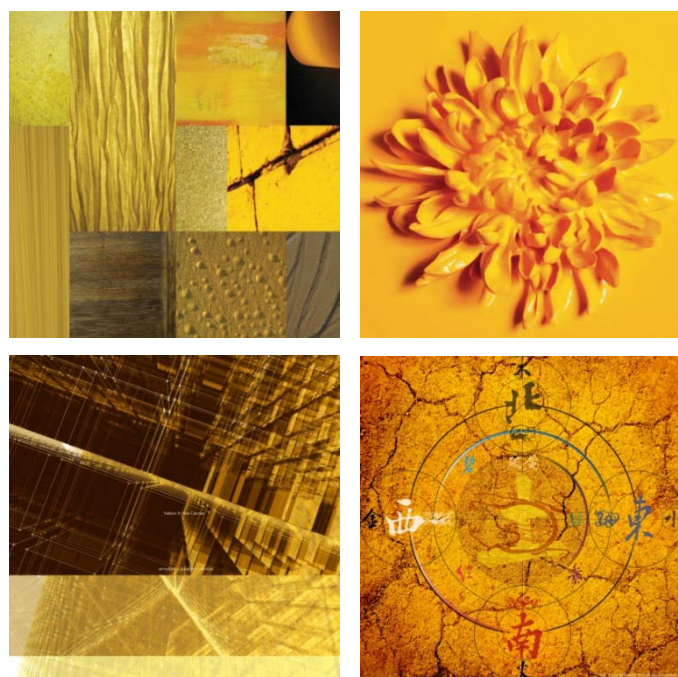
Three colour design prize winners from the Korea Color Awards.

Special Activities

KSCS held the Gumi International Color & Urban Design Forum in the grand conference room of Gumi Digital Electronic Industry Hall 4-6 November. This event, hosted together with Gumi City, was a place of diverse research for interaction through broader communication in the colour academic fields. We invited famous domestic and overseas colour specialists to lecture and lead discussion sessions and held six major exhibitions for three days: international colour invitation; colour experience; personality experience; 8th Korea Colour Awards; outstanding work in Gumi City Public Design; and Photography of Good and Bad Colour in Gumi. On the evening of 5th November the delegates enjoyed entertainment events, including Magic Show, B-Boy Show, and Best Dressed Awards at the Hotel Geumosan Convention Hall.



On the last day, 6th November, the Autumn Academic Presentation Conference was held with research performances and project cases of members. The award ceremony for the international colour invitational exhibition celebrated the diverse works of domestic and overseas artists as well as the Korea Color Awards. Successful colour marketing cases were selected to complete the entire event.



Four creative works on theme of yellow from international exhibition.



El Asociación Mexicana de Investigadores del Color, founded in May 2005, promotes colour

in interdisciplinary researches, exchanging expertise and applications among different areas and contributing to cultural diffusion about the use of colour in Mexico. Actually AMEXINC counts more than 30 professionals of different specialties: psychologists, physicists, graphic designers, home designers, architects, and teachers. The organisation is not exclusive to people of high academic degree, but open to all professionals passionate about colour, who want to learn more or to share experiences and knowledge about colour. AMEXINC was accepted as an AIC member in 2007.

Meetings

Every year AMEXINC celebrates its anniversary in May. In 2010 the Faculty of Architecture of Mexico State University campus Toluca hosted the celebration. Talks were given by leading designers to students for the degree in Industrial Design. Leticia Arroyo introduced her new book *Tintes Naturales Mexicanos* (Natural Mexican Dyes). Mauricio Moysen talked about the importance of colour in industrial design.



Activities

AMEXINC began in 2010 to offer its diploma in colour studies. This diploma can be obtained after of several hours of training in basic and special topics about colour. Angela Alba was responsible for the first course entitled 'The magic of colour', which was given in November to a class of 15 persons. Further courses are planned in 2011 with other speakers: 'Physics behind colour', 'Evaluating colour vision', 'Sensation and perception of colour', and 'Psychology of colour'.

Many meetings of the Executive Board were held to plan the activities of 2011. For example, Vice-President Carlos Aguirre began to coordinate the efforts around a book of scientific research of colour. Mexico is also applying for the candidature to host the AIC 2014 Interim Meeting.

Changes are planned to our web site at www.amexinc.org.mx which is visited by many users every day, from both Mexico and other countries. In 2011 the web site will be reorganised and extended, with new sections including the book store, yellow pages and links to Twitter and Facebook.



Carpets of flowers and sawdust: Ephemeral folk art

Our president, Dr Georgina Hernández Ortiz, was involved in intensive academic activity last year. On behalf of AMEXINC she attended meetings and workshops with talks on 'Emotions and colour' and 'Marketing and colour' in several Mexican Institutions of Education.

She also made a study of ephemeral folk art, one of the Mexican traditions whose main elements are colour and form. In various religious holidays carpets of sawdust and flowers are laid on the ground. Its origin has two cultural sources: (1) in pre-Columbian times it is said that the Priests of the theocracy used a carpet of flowers, pine



and bird feathers of precious quetzal, macaw and hummingbird; (2) the Spanish connected the tradition to the triumphal entry of Jesus into Jerusalem, when people spread out their cloaks and palm leaves. Thus from the 14th Century it became customary to lay down branches of fragrant plants like rosemary, lavender and rose petals that began and ended with arches of flowers to the passage of the procession of Corpus Christi.

These carpets almost always follow a prior design, in which the images depicted are flowers and animals from the region. In some cases biblical scenes are used or images of the saint to whom the celebration is addressed. In other Latin American countries the materials may include fruits, vegetables and breads. The flowers have bright colours such as bougainvillea, chrysanthemum, roses, daisies, sunflowers, from which the petals are separated from the stems. The preparation of sawdust is more elaborate, but also a collective effort, as it is stained with colored dyes to create an elaborate design. Xico carpets are placed over the street cobbles to make a bed upon which to smooth out the uneven ground.



The main festival, in the town of Huamantla in the state of Tlaxcala, takes place in July and August, along with the famous 'Night of No Sleep', which invariably occurs on the night of 14th August. They adorn the streets with beautiful carpets of coloured sawdust and flowers, and at midnight hold the procession of the Virgin of Charity. This colourful procession is led by the priests, stewards and religious groups, followed by visitors, all accompanied by the band, fireworks and rockets.

Kleur. & visie

During 2010 the Board transformed the Association into a Foundation. With the new structure we expect to be able to react better on developments and to improve cooperation with partners in the field of colour through transparency and a recognisable position. The long history and efforts of the former Dutch Association for Study on Colour (Kleurenstudie) has formed the basis for a professional platform and community, which will be continued under the new name: Stichting Kleurenvisie – the Dutch Platform for Colour.



Kim van Savooyen (left) and Louise Buvelot (right), Directors.

Two issues of our in-house magazine were published in 2010:



Kleur breed uitgemeten (Colour in all its shades) Contributions included the power of green in dreams; coloured memory; colours of the hereafter; the role of colour when searching for images; colour without material does not communicate (on the restricted usefulness of colour standards in the textile industry). There was a feature on raw colour, visual research on vegetables, with colour maps, mixing ratios and botanic families to display nature's wealth of colour and to put it into a new context.



Kleur en Lucht (Colour and Light) Contributions included a thesis on colour constancy by Arjan Gijsenij, considering a new paint recently introduced by Sikkens that is not colour consistent: the spectator is continually surprised by the 'moving colours' concept. Ellen de Vries, a light architect, gave insights into the way colour and music move her to a deeper awareness. The University of

Mainz showed that the colour temperature of a light source can influence the taste of wine. Striking results of research by FOM Institute with Twente University showed that the colour of light could be changed by using a nano sieve.

The Color Café in January was a meeting in the format of several *Pecha Kucha* presentations. The key-note speaker Floor van Dusseldorp presented his latest publication '12 colour propositions for urban planning', in which he formulates fundamental definitions for outdoor use of colour.



At the professional studio Beurskens, in April, we held 'Colour Caught' on colour in photography, imaging and prints. The question was how to catch a colour and make the reproduction in the right way, i.e. how to manage colour.

As 2010 was the year of light, on 22nd October at the eve of the Dutch Design Week we organised our second Colour Day in Eindhoven, the 'light city' (because of Philips Lighting), hosted by Van Abbe Museum and Designhuis. It became apparent that red is not an exciting colour for everyone. A room lit totally in red made some people very happy, while others became nauseous. Evidently more research is needed!



Mark Stolk lectured on 'Colour Vitamins', sharing his knowledge of scientific data and direct practical experience. This synthesis raises new questions, not only about colour, but also how we are able to experience colour more fully. Chretien van Campen presented his new book, *Gekleurd Verleden* (Coloured History), exploring colour through the story of Proust with engaging stories on synaesthesia. Marike de Kruiff, light designer and creative lighting director of Philips Design, showed designs in which light and colour become meaningful, opening many possibilities for coloured light.

Contributions and Cooperation

The Dutch Colour Group contributed several media items, such as interviews for local and national radio and television, answering questions, and match-making related to colour.

In research for the exposition about De Stijl, more information was needed about the paints and varnish used on furniture made in this period. Valerie Guillaume, one of the curators, consulted our library with the De Stijl expert Hans Vrijmoed. The expo De Stijl | Modriaan was held from December 2010 till March 2011 in Centre Pompidou, Paris.

A similar contribution was made in research for the book *Colour in Time*, which presents essays, statements, interviews and case studies on the use of colour in all aspects of daily life.



Research and education are major concerns of the Associação Portuguesa da Cor (APCOR) and therefore activities are centred on fostering the development and dissemination of knowledge about

colour. Most members are involved in colour education with classes and seminars in the various scientific, artistic and philosophical domains associated with colour (Art, Design, Architecture, Medicine, Psychology, Vision, Philosophy, etc.), at levels ranging from secondary school to university, at undergraduate and postgraduate programmes within master and doctoral degrees. This is possible since a high percentage of members have been awarded a PhD or a Master's Degree in Colour or related domains.

Besides educators, 11 members are currently carrying out projects with the aim of achieving a doctoral degree or in post-doctoral research programmes, mainly in the fields of architecture, urban communication, product and clothing design, philosophy and sub-topics. Finally, some group projects are autonomous, even though grounded to some extent academically. Members have participated in conferences, workshops, seminars and scientific meetings throughout the year, national and internationally.

Events: Exhibitions and meetings

The Exhibition COR showed the work of 21 members, co-organised by APCOR and the Ordem dos Arquitectos. In 2010 it was presented in the city of Aveiro at Casa Fernando Távora, from 18 February to 21 March, under the responsibility of Arch. João Pernão and Luís Bissau with the sponsorship of Robbialac Paints.

Prof Maria João Durão was invited by the President of Associação Pró Cor do Brasil, Dr Paulo Felix, to present the theme 'Colour and Architectural Identity' at the Fifth Encontro Brasileiro da Cor (23rd September) held in Sao Paulo at FEITINTAS, VII Fair of the Industry of Paints and Varnishes, with the support of MundoCor and SITIVESP (see also p.13). The theme of the meeting was 'Colour of Brazil in Face of the World' and dealt with urban colour in terms of conservation, rehabilitation and promotion of well-being.



Poster for the exhibition COR in the city of Aveiro.

Newsletter, webpage, radio and TV

APCOR director of image, the designer Helena Soares, recreated the image and potential of the webpage. She also worked on the graphic design of the annual APCOR Newsletter, edited by President Prof Maria João Durão in collaboration with Arch. João Pernão.

Prof Dr Fernando Moreira da Silva was interviewed by a national radio on the subject of colour and its effects on the human being as well as its uses for interior design. Prof Rui Barreiros Duarte and Arch. João Pernão participated in a national TV show with comments on the use of colour in clothing and its symbolic attributes.

Interactions with Sponsor

In 2010 there were very successful interactions between the Associação Portuguesa da Cor and our sponsor from the paint industry, ROBBIALAC. We worked together in events such as 'Casa da Cor', as well as seminars and the exhibition COR, at Casa Municipal da Cultura Fernando Távora, in Aveiro.



Fresh new graphic design for the APCOR website.



Time for change

The year 2010 represented a turning point for our Society, for which we began to draw up proposals for basic substantive changes in its operation. The majority of our Society's members belong to the older generation, which results from those prosperous times of the textile industry in Slovenia, when it was still part of Yugoslavia. The sporadic collapse of the textile industry coincided with the breakup of Yugoslavia and changes in the world economy. In past years we have seen that the previous needs and functions which determined the operation of the Society had become depleted and exhausted. Considering our new social condition, it is necessary to adopt certain organisational and substantive changes that could revive our operational ability and enable us to gain – above all – new younger members.

Farewell to the old premises and the old image



We had to change the location of the registered office, which was also an opportunity to change the name and the official title of our Society. This entailed amendments to the regulations and the statute, which needed recasting of those parts that did not comply with the existing state and requirements of the Society. Thus we drew up a list of proposals, including the change of the Society's name, which is a key indicator for the integrity of all changes. The Slovenian Colorists Association, SCA (Drustvo Koloristov Slovenije, DKS) was renamed to the **Slovenian Society for Colours, SSC** (Slovensko Zdruzenje za Barve, SZB).

Logical grounds and arguments

It was necessary to cite some logical grounds and arguments for making such vast and thorough changes which were painful for many members. Firstly, the previous name was controversial in many aspects from the terminological point of view. In the Slovenian language, we used the masculine gender form 'colourist' despite the fact that for years the majority of our Society's members were women. Furthermore, Mrs. Slava Jeler, who was our long-standing President, is now the Vice-President. Secondly, it became inadequate and too narrow to refer to the members as 'colourists' because the respective term could not characterise those members who engage in theory, philosophy or psychology of colour and in many other fields.



Acquisition of the status

Earlier this year, the Ministry of Higher Education, Science and Technology of the Republic of Slovenia granted the formal status as **the Society that works in the public interest in the research field**. Our Society has obtained this status as a permanent mandate due to the submitted evidence and by virtue of the professional activities of our individual members, which is certainly the most important achievement in 2010. Because of this document it will no longer be necessary to prove our eligibility every year.



Member activities

Marta Klanjšek Gunde participated as invited plenary lecturer at the **IX Congreso Nacional de Color** in Alicante, Spain with the title *Dynamic colour of chromogenic materials* and at the 37th International Research Conference of IARIGAI in Montreal with the article *Light stability of thermochromic prints*. She represents Slovenia in CIE Division 1 (Vision and Colour) and in CIE TC2-53 Multi-Geometry Color Measurements of Gonio-apparent Materials and Metrics for Evaluation. Several members along with Matjaz Kunaver and Gorazd Golob participated in organising and implementing our most important 41st International Symposium on Novelties in Textiles and the 5th International Symposium on Novelties in Graphics, held from May 27-29 in Ljubljana. Matjaz Kunaver also participated in the Editorial Boards of several international scientific journals: Surface Coatings International, Pigment & Resin Technology, and JCT Research.



Prof. Vojko Pogačar, the new president of SSC, introducing his large-format art works, entitled *Tractatus Logico Color* with the lecture *Colour Logical Treatise* in Gallery Media-Nox.

One swallow does not make a summer

Parallel to producing this report, we are still creating the basic elements for the Society's new corporate identity which can partly be seen on this page. In addition, we are preparing a platform for the new website which will enable the interactive involvement of our members in a simplified active communication for better and easier operation of our Society. Although one swallow does not make a summer, we have welcomed a new female member just a few weeks before New Year as a promising augury of better times.



During 2010 the main activities of the Color Committee of Spain were focused on organisation of our IXth National Congress (<http://blogs.ua.es/cnc2010>) in Alicante, 29th June to 2nd July, chaired by Dr Francisco Martínez-Verdú (Colour & Vision Group, University of Alicante, <http://web.ua.es/gvc>), with the support of the Research and Innovation Ministry of Spain and twelve well-known companies involved with colour science and technology.



Official photo of IXth Spanish Congress of Color (Alicante, 2010).

The attendance at our IXth National Congress was successful with 141 people giving 30 oral papers and 81 poster papers, providing a discussion forum on topics related to colour from a wide range of aspects: scientific, artistic, communication, industrial, educational, etc. The oral and poster sessions were grouped according to the following issues:

- Colour Science
- Colour Perception
- Colour Reproduction
- Colour in Art and Architecture
- Colour in Foods
- Multidisciplinary Colour

Furthermore, in this congress we relied on the attendance of colleagues from Colombia, Mexico, Portugal and Italy. With this initiative, the Colour Committee of Spain is trying to boost and consolidate the professional relationships with Latin American and Portuguese groups in order to transform the 10th Edition of this Conference in 3 years time into the 1st Edition of the Latin-American Color Conference.

There were four invited lectures in our IXth National Congress. Marta Klanjšek Gunde (University of Ljubljana, Slovenia) enlivened the opening session with a talk entitled 'Dynamic color of chromogenic materials'. José Luis Caivano (University of Buenos Aires, Argentina) presented 'History of colour order systems related with Architecture'. Long Lin (University of Leeds, UK) discussed 'Status quo and future of anti-counterfeit technologies – the role of colour'. Finally, Roger Boulton (University of California Davis, USA) gave the invited talk 'Red wine color - relating color to composition in young wines and predicting the color of aged wines'. We would like to take advantage of this opportunity also to thank all the companies

who provided support and collaboration, especially X-Rite, Telstar and Laser 2000 for participating in the awards for the best oral and poster papers, as well as the best paper by a young researcher.

The social programme of the conference included a welcome reception, a tour around the city of Alcoy and a banquet dinner. The welcome reception was held in the Santa Barbara Castle in Alicante. The tour around Alcoy was organised by the Alcoy City Council, and attendees enjoyed walking around the natural reserve 'La Font Roja', and visits to 'La llotja de Sant Jordi' and 'Casal fester Filá de Vascos', where they discovered the amazing spectacle about the Moors and Christians. Prior to the banquet dinner, held in the gardens of the Marq Museum (Alicante), the Patronato de Turismo de la Diputación Provincial provided a free visit to the Museum including the exhibition 'The Mystery of the Mummy'. Discussions between attendees continued into these events because the conference created an enjoyable atmosphere. The Proceedings of the Conference are available. You can contact secretaria.cientifica.cnc@gmail.com or visit our blog <http://blogs.ua.es/cnc2010/> to see all the information and documentation relating to this Conference.

Some members of our Committee also participated in CGIV'10 and MCS'10 at the University of Joensuu, Finland, with six contributions between oral and poster papers. Also numerous Committee members attended the AIC2010 interim meeting in Mar del Plata, Argentina, presenting a total of 20 papers. Members also continued their activities on different Technical Committees of the International Commission on Illumination (CIE), including TC1-55, TC1-63, TC1-74 and TC1-79.



Spanish contingent with rustic Madonna in the trip to Los Padres mission, during AIC2010 in October in Argentina.

Executive Committee

- Manuel Melgosa (Universidad de Granada), President
- Joaquín Campos Acosta (CSIC), Past-President
- Francisco J. Heredia (Universidad de Sevilla), President-elect
- Francisco Martínez-Verdú (Univ. de Alicante), Secretary

For additional and updated information on the activities of our Committee you are kindly invited to visit <http://sedoptica.cfm.ac.csic.es/color/color.html>



The Swedish Colour Centre Foundation has around 150 individual members working with different aspects of colour and 25 organizational members. Its mission is to: (1) Encourage scientific research within the colour field for industry, education and people working with colour; (2) Spread new knowledge and experience in the field of colour; and (3) Be a natural centre for colour research.

Activities

The Stockholm Colour Day 2010 was held on 21st October under the theme of 'Colour in new light' and attracted 140 participants. The day started with a presentation by Björg Aabö, an interior designer from the international architect office Snöhetta AS. She presented many of their interesting and spectacular projects round the world such as the library in Alexandria, the new Opera house in Oslo and a lot of interesting ongoing projects in the Middle East. The next speaker was Pentti Kareoja, an architect from ARK-house Oy, Finland showing us the interaction between



Färgdagen 2010

colour, paint and architecture. Colour is an integral part of architecture which can create exciting possibilities. Catrin Vagnemark, Creative Director and Mikaela Dyhlén, Insights Manager at BVD, Design and Branding specialists, presented the power of colour in building brands, creating great experiences and selling products. Today's fragmented media market in combination with more cynical consumers means that brands have to be more creative and innovative in how they communicate. Colour has become a powerful tool used by smart retailers to engage their audiences.



Lena Anderson, Chair of the Swedish Colour Centre Foundation, welcomes delegates to Färgdagen 2010 in Stockholm.

After lunch we had an introduction by Prof Anders Liljefors to new energy light sources and how they affect our perception of colour. Prof Karin Fridell Anter and Asst Prof Ulf Klarén from the University College of Arts, Crafts and Design in Stockholm introduced us to the research project entitled 'SYN-TES: Colour and light synthesis – Towards a coherent field of knowledge'. It involves researchers from six Nordic universities together with companies working with colour and light products. One of the sub-projects deals with the interaction between light and colour in full scale rooms.

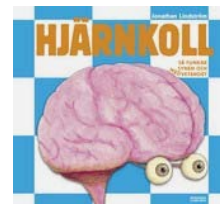
Architect Elise Juusela-Norberg showed the importance of colour design in hospitals and its influence on rehabilitation.

Linda Worbin is Lab Manager of Smart Textiles Design, an open platform for experimental design research within the Smart Textiles initiative. Examples of smart textiles include: materials that sense how much light to absorb, textiles that measure pulse and immune systems, gloves with microphones, sensors in mattresses, cooling or warming clothing, and reinforcing concrete. The stage designer Anna Skagerfors talked about the interaction between art, light and colour in an art exhibition and how to catch the visitor's eye.

Per Jutterström gave a talk about our experience of the right colour in food. It is not only a matter of taste and consistency. Our moderator was Diana Uppman, Managing Director of Beyond Tomorrow, who ended the day with an interesting discussion among all the speakers.

Members meetings

In March we listened to a very inspiring and funny presentation about how our brain works by Jonathan Lindström, author of numerous books about popular science.



In April we visited Nordiska Museet, the biggest museum of Swedish cultural history. We had a guided tour through the exhibition titled 'The power of fashion' through 300 years where colour is one important factor.

In September we had a guided tour of an old castle, Tyresö Slott, which is a unique combination of National Romanticism and the 17th Century.

At the annual meeting in the Swedish Colour Centre Foundation in November, after the annual reports, Berit Bergström gave a presentation of the use of grey colours: through history, in interiors and exteriors, in art, in nature, in symbolism, in different cultures and peoples' feelings about grey. The idea of this talk started with the question – why is grey such a popular colour in Sweden right now?



November is really grey in Sweden!

Colorspot

We are still working on the development of our new homepage Colorspot, and we are keen to attract more visitors. www.colorsport.org is a hub for all people interested in the progression of colour use, colour news, opinion and concepts. Colorspot is also intended as a meeting place where users can share discussion, penetrate topics, analyse concepts and interact with one another. Updated regularly by its team of dedicated bloggers, the site has its finger firmly on the pulse of the modern colour world.



Over the past year, individual members of the Executive Committee and the

Executive Board of pro/colore have been engaged in intensive preparations for the AIC Midterm Meeting 2011, which will be held in Zurich. The year 2010 was overshadowed for us by the unexpected and untimely death of the Association's President, Susanna A. Bösch, in December.

For the Annual General Meeting in April, the members of pro/colore took up an invitation from Dold AG in Wallisellen. This company was founded in 1921 and specialises in paints and varnishes for the construction trade, and has gained a reputation over three generations for research and development. IG Pulvertechnik, which forms part of the Dold Group, is represented in more than 30 countries worldwide with its powder-coating products. After the AGM, Ms Daniela Späth, of Colormotion GmbH, spoke of her study on 'Cool-Down Pink'. Since the summer of 2006, an experiment has been running in the high-security wing of a Swiss prison on the impact of 'Cool-Down Pink' for moderating violent



behaviour. Prison director, René Meier, confirmed that the pink-coloured cell is highly frequented and has a positive impact on the behaviour of potentially violent inmates. From the medical angle, a pink environment has a positive influence on all nervous illnesses (MS, Parkinson's, bipolar disorder, hyperactivity).

In exceptional situations, colours have a rapid and direct influence, without generating any regressive counter-pressure. This only works, however, if extensive competence is available on the symbolism of colours and their psychobiological impact. Dold AG supported this study through colour cabins in which the impact could be directly verified by a questionnaire and pulse measurement. The colour shade 'Cool-Down Pink' is available exclusively from Dold, in a wide range of product qualities.



Delegates at the AGM. In the background are the 'colour cabins' where people were able to test the effects of colour immersion.



A further visit took us to the Frauenfeld Hospital. Beat Schneider, the leading architect for the project, explained the organisational and architectural concept on a tour through the building. He also provided information on the selection of materials and colours for this highly complex assignment. The parts of the Emergency and Intensive Care Wards that we visited are bathed in a sunny brightness through the warm yellow floor and the vital shades of green with floral motifs – printed on glass walls and protective curtains (above). The hospital staff and doctors reported in positive terms on their day-to-day working experience in the redesigned wards.

On 26 October, Lascaux Colours & Restauro invited pro/colore to its offices. As an innovative company, Lascaux has developed the interior paint, Resonance. This is promoted as the paint for people who consider sustainability, health and well-being to be priorities. After a tour of the premises, company owner Barbara Diethelm explained the focal points of the resonance principle and bioactivation. Master painter Markus Bösiger reported on his positive experience with the use of Resonance interior paint. Members of pro/colore were able to see the spreadability and coverage of the paint on wall surfaces.



General Assembly

At the AGM of 27th April 2010, Ernesto Bergantini announced his premature retirement as President. Susanna A. Bösch was then elected as the first female President since the foundation of pro/colore. We greatly appreciated her as a committed, competent and colourful person, and we were very sad to lose her (see obituary on page 9). We miss Susanna deeply and would like to express our thanks for the many letters of condolence we have received from Switzerland and abroad. A new candidate is being sought for the office of President, who will stand for election at the 2011 AGM. Until then, Ernesto Bergantini is standing in as President.

During June 2011 pro/colore will be hosting the AIC 2011 Midterm Meeting (see page 43). Verena M. Schindler is Chair of the Organising Committee. pro/colore is busily planning a fine event and we look forward to welcoming the many AIC delegates and guests in Zurich.



leading Institute for Applied Sciences ITRI (Industrial Technology Research Institute).

The fifth annual meeting of CAT members was held in April. Prof Dr Su-Ling Yeh, an expert on human visual attention and perception at the Dept. of Psychology at National Taiwan University, gave a talk on perception as a multi-dimensional experience.



In September, CAT invited Prof Steven Shevell of the University of Chicago to give a lecture 'Human Color Vision Standards' to an audience of 40 colour experts. Critical evidence was provided against the traditional theory about universality of the spatial distribution of retinal photoreceptors.

From 12-15 of October, seven CAT members attended the 2010 AIC Interim Meeting *Color and Food: From the Farm to the Table* in Mar del Plata, Argentina. Papers included: 'A study of the relationship between color and the Chinese five elements' by Monica Kuo, Hwei-Lan Chang and Yen-Ching Tseng; 'Color preference for dining space and its imagery' by Prof Tien-Rein Lee and Prof Vincent Sun; and 'Using image partition to shine food via web-based color gamut mapping in cross media' by Jin-Ling Lin and Mei-Chun Lo.



Taiwanese contingent (with friends) at AIC 2010 in Mar del Plata.

In November, CAT organised a conference on 'Color Tradition and its Modern Applications' in Xia-Men (China), with the China Fashion and Color Association, supported by the Association for Science and Technology, China. More than 150 participants attended the event, in which 33 CAT members presented 22 research papers.



11th International Conference on Color Science & Applications

Also in November, CAT held the 11th International Conference on Color Design, Applications and Science at the School for Continuing Education (SCE) of the Chinese Culture University (CCU) in Taipei, with 141 attendees. The four invited keynote speakers were Prof Michael Pointer, Prof Ronnier Luo (both at the University of Leeds, UK), Prof Janos Schanda (University of Pannonia, Hungary) and Prof I-Ping Chen (Chiao-Tung University, Taiwan).



Prof Janos Schanda (left) and Prof Michael Pointer (right)

In cooperation with the Taipei Artist Village and sponsored by the city government's Department of Cultural Affairs, CAT is supporting the re-design of the Bao Zang settlement in Taipei city. The reconstruction of the area includes colour projects like varying illumination, light exhibitions and wall paintings. These projects are expected to be finished before AIC 2012.



Coloured illumination of housing in the Bao Zang settlement.



The activity of the Colour Group of Thailand (CGT) in the year 2010 was devoted mainly to the project of renovation of the colour gallery of the museum of Imaging Technology at Chulalongkorn University, Bangkok. This included the research of the Thai colour standard project. The project fund was supported by Chulalongkorn University.

Museum of Imaging Technology



The museum of Imaging Technology is located in the grounds of Chulalongkorn University, Phayathai Road, Bangkok. It was founded in 1991, as a non-profit organisation dedicated to collection and preservation of cameras and related photographic items, and how they have evolved over the years. The Museum Guide Book pays special

attention to the many important photographic processes and other imaging technology, including colour. The colour gallery is being extensively renovated and will house exhibits and experiments on light and colour which are important in design, photography, printing and other related industries. The display shows how colours are created as well as various experiments demonstrating the nature and properties of light and their applications.

The renovation project, under the guidance of Associate Prof Pontawee Punggrassamee, was started in 2010. We have added more new themes to the exhibition such as colour perception, metamerism, simultaneous contrast effects and colour systems, including colour research work by our CGT members and industries. This research includes Thai colour names and how colour affects emotion, etc. It is expected that the colour gallery of the museum will be completed by the end of 2011.



Entrance Foyer of the Colour Gallery

Thai Colour Standard Project

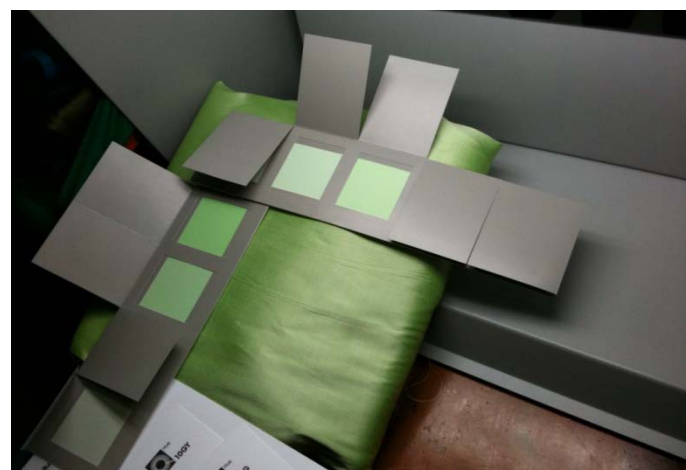
Assistant Prof Dr Pitchayada Katemek is the head of the project. The objective is to set up a Thai colour naming standard for identifying, analyzing and preserving the colours of traditional Thai silks and other fabrics. We have already prepared the premises and organised a step-by-step plan:

1. Sending questionnaires to artists who have inherited the knowledge to produce traditional Thai colorants and to obtain examples of the colours used in the past;
2. Selecting the artists who could be involved in the research;
3. Structuring the information collected from each artist;
4. Developing a method for obtaining the best possible matching of the colours described by the artists;
5. Developing software for performing specific traditional and statistical colour analysis.



Traditional method of dyeing fabrics by hand dipping in vessel containing colorants.

At this stage we have finished the preliminary questionnaires that could help to select the artists. We are proceeding to collect the data by which the flow-charts for the new method of identifying and analysing the colours can be established. It is expected that the software for colour analysis will be introduced later in 2011 as a beta version.



Matching dyed fabric with a standard colour patch.



The Inter-Society Color Council (ISCC) is the principal professional society in the field of colour in the United States. It was founded in 1931 with the goal of advancing the knowledge of colour as it relates to art, science, and industry. There are currently 11 Sustaining Members of ISCC, 18 Member-bodies and 545 individual members. Joining the ISCC Board of Directors in 2010 were Art Springsteen of Avian Technologies, Nancy Kwaliek of UT School of Architecture and John Conant of Aerodyne Research. Ann Laidlaw of X-Rite was elected as the new Secretary, so her term on the Board of Directors is being completed by Jim Roberts of BYK Gardner. Other officers of ISCC are Francis O'Donnell of the Sherwin Williams Company as President, Scot Fernandez of Hallmark as President-Elect, Cameron Miller of NIST as Treasurer, and Maria Nadal of NIST as Past-President.

Publications

The ISCC publishes a newsletter six times each year. It also offers for sale the following technical reports: *Color and Light* by Fred W. Billmeyer and Harry K. Hammond III; *Demystifying Color* by Robert Chung, *Guide to Material Standards and Their Use in Color Measurement* (ISCC TR-2003-1) and the Commemorative CD and limited edition pin from the ISCC's 75th Anniversary, all available from the ISCC Office.

Annual Meeting

The Inter-Society Color Council held its 2010 Annual Meeting in October in Raleigh, NC at the College of Textiles at NCSU with the theme of 'The Colors of Multi-Colored Things'. Technical sessions included an overview of current research activities and advances in colour as it relates to art, science and industry, as well as an education session on selected topics in colour history, measurement and management.

Awards



Maria Nadal (left) and Joanne Zwinkels with Macbeth award.

The prestigious Macbeth Award was presented to Joanne Zwinkels of the National Research Council of Canada for her contributions to the advancement of spectrophotometric instrumentation and standards for the fields of colour and appearance measurement and fluorescence spectroscopy. She is currently developing a versatile reference goniospectrophotometer for specular gloss calibration at several standard geometries and visual appearance characterisation of gonioapparent materials.

The 2010 Nickerson Service Award was presented to Michael Brill of Datacolor recognising his wide-ranging contributions to the Society from administrative and technical support, his leadership as President, to his launch and regular contributions to the 'Hue Angles' column of the ISCC Newsletter. In addition, Rolf Kuehni was presented with an Honorary Membership for his tireless contributions to ISCC over four decades in colour education.



Michael Brill with the Nickerson Service award

A highlight of the meeting was the paper 'Revisioning Color' by Carl Jennings of University of Hawaii, which explored Goethe's description of edge colours, T. Holtsmark's physics-based re-examination of them, and a recent device designed by Pehr Sällstrom that, with two prisms and two slotted mirrors, makes a purple ray appear to pass through the second prism without dividing into red and blue components. This paper led to months of email discussions, still ongoing.

Topical Meeting

In June, at the Friend Center at Princeton University, the ISCC coordinated a joint meeting with ASTM and CIE on colour-related standards. Monday and Tuesday (June 14-15) featured subcommittee meetings of ASTM Committee E12 on Color and Appearance. Thursday and Friday (June 17-18) featured committee meetings of CIE Division 1 (see report on page 42).



The Friend Center, Princeton University

Between these meetings, on Wednesday June 16, the ISCC conducted a special Symposium: 'Standards: What they are – What will they be? – What should they be?' The chairs were Michael Brill, Jack Ladson and Hugh Fairman. Featured at the Symposium were twelve papers about standards, given in a non-standard context. Each speaker addressed the present, the expected future, and what that speaker believed ought to happen in the future. Discussions ranged from "change is bad" to "change is overdue" to "change, but please not that change!" In addition, we were privileged on Wednesday evening to have a presentation '3D Image Safety: Ergonomics of 3D images and their standardization' by Dr Hiroyasu Ujike, the chair of CIE TC1-67 (The effects of dynamic and stereo visual images on human health). All three meetings contained extensive reports and papers on methods of tristimulus integration – standards undergoing significant changes that will affect all industrial spectrophotometry.

The International Association of Color Consultants and Designers (IACC) is privileged to have numerous highly talented members, widely spread out over various continents. One of our primary concerns was our lack of communication to unite better with those members, other than our yearly newsletter. Our members were achieving many interesting things, but frequently the accomplishments went unnoticed. We wanted a 'colour family' with which we could easily communicate. Members need to be aware of, be inspired by, and be proud of their peers. We have achieved that goal of better communication and resolved our dilemma.

We are now using an email messaging system that gives a professional look to our notices, while we pay minimal costs for the service. This system has allowed us to brag continually about the achievements of our members. The information is instant, when the event occurs, and without any lag time. We are in constant contact with members to advise them of AIC Newsletters, colour articles, calls for papers, colour research (often with an ensuing debate), colour competitions, colour news, articles written for other colour or design publications, news on colourful healthy eating, colour tidbits (silly things about colour), the use of pink in prisons, which members have been on radio or television, news about the addition of new international chapters, etc., etc.



Tasteful use of colour paintwork enabled Amy Wax, President of IACC-NA, to win the Benjamin Moore award for Residential Exteriors.

In 2010, our current president, Amy Wax, of Montclair, New Jersey, was the first professional colour consultant to win the Residential Exterior category for the Benjamin Moore HUE Awards. Benjamin Moore is a major USA paint company established in 1883. Amy demonstrated how the power of colour can enhance character and architectural style. She was also asked for her comments on the new Oval Office design in our most famous residence in the US – the White House.

Bernard Pépin of Montreal, Canada, won the prestigious Consumers' Choice Award for high standards in business excellence. Quality and superior service were important factors, plus his understanding of the effects of colour on human perception and behaviour. Bernard founded Atmosphère Design in 1980, combining his architectural education with his experience in hotel operations to give him

a fresh perspective on treating space. His special interest in the therapeutic effects of colours has enabled him to develop commercial, industrial and institutional designs that have succeeded because of their overall visual effect in creating a sense of calm and balance.



Bernard Pépin (left) accepting the Consumer's Choice Award.

Jill Pilaroscia, San Francisco, California, a highly respected professional colour consultant, was interviewed by Rebecca Firestone for *The Architects' Take*. The interview was about Jill personally and her extensive educated use of colour in the architectural environment.



Office building belonging to Jill Pilaroscia, an architectural colour consultant in great demand for the San Francisco area.

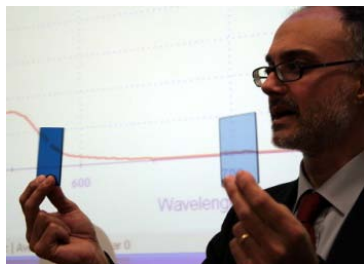
The IACC believes that by sharing their success we are able to stimulate our members to achieve equal or higher standards. In 2010, we also decided to venture into the social media market with LinkedIn as a professional group. This has proven valuable to give our members an opportunity to communicate immediately on issues they feel are important, to gain insights, and the ability to express themselves, either pro or con, on matters they may never have discussed before.



In 2006, through funding from European Union, the FP6 network CREATE, (Colour Research for European Advanced

Technology Employment) was established. The motivation for all EU Marie Curie Actions is to encourage young people to become researchers, and for researchers to build successful careers. A further objective is to assist their mobility to travel, meet and share knowledge. CREATE was formed to promote and exchange knowledge in colour through a series of conferences and training courses to an emerging generation of young researchers. www.uwe.ac.uk/sca/research/create

CREATE addressed a broad range of themes in colour with artists, designers, technologists and scientists to produce a cross-disciplinary approach to improving colour and print. The project assisted in the development of research ideas between teachers and researchers, including European groups working in the arts and sciences, for exchange and dissemination of knowledge. As new researchers applied for successive training events, a new injection and diversification of ideas evolved. The priority was to maintain a balance between delivering colour knowledge and providing time and space for new research opportunities.



Marcello Picollo, UV-Vis-NIR spectroscopic characterisation of glass (Milan workshop).

The programme of events began and ended with two large conferences, showcasing the range of subjects and expertise of participants. The first, 'Collaborate – Innovate – Create', was held at the School of Creative Arts, UWE Bristol, in September 2007 and the last was at Gjøvik University College, Norway, in June 2010. In between were five carefully themed skills-based workshops, hosted by different institutes in the network:

Training Course 1: 'Putting the Human Back into Colour', Charleville-Mézières, Ardennes, France, February 2008.

Training Course 2: 'New ways to use print technology ... On paper', Uni. West of England, Bristol, England, October 2008.

Training Course 3: 'New ways to use print technology ... On fabric', Uni. of Ulster, Belfast, Northern Ireland, October 2008.

Training Course 4: 'Communicating Colour', University of Pannonia, Veszprém, Hungary, May 2009.

Training Course 5: 'Colour Heritage and Conservation', Università Degli Studi di Milano, Italy, October 2009.

Throughout the programme a range of teaching and training methods was used to encourage participant involvement. Young researchers had opportunities to listen to and work with some of the most significant experts in colour, and to meet and network with other researchers. Each event comprised lectures, demonstrations, discussions, workshops, mentoring and poster sessions, with many opportunities



The CREATE committee in action: (from left) Karen Fleming (Northern Ireland), Clotilde Boust (France), Carinna Parraman (UK), Alessandro Rizzi (Italy), Jon Hardeberg (Norway), and Cecilia Sik Lányi (Hungary).

for informal conversations and networking. For the majority, the notion of presenting to an audience was a daunting task, and various methods were employed to increase participation and improve confidence. At the beginning of the programme in 2007, the number of lecturers was greater than the number of participants, but by the end in 2010 the participants' involvement had by far exceeded that of the invited lecturers.

During its 4-year existence, CREATE trained about 400 researchers with the assistance of approximately 100 experts. Many have gained PhDs, started new jobs, or developed their research careers. The CREATE network enabled them to establish links with peers and experts across Europe and provided a forum for dialogue between different fields. Thus CREATE could be considered primarily as a dedicated channel for the dissemination of postgraduate research.

The clear message we sought to deliver through the CREATE network was that researchers could share knowledge beyond their individual disciplines and support others. We promoted knowledge of colour by improving access for young researchers to a postgraduate network across Europe, where many researchers undertake cross-disciplinary investigations. We are proud to have assisted all these students who have embarked on or completed PhDs, and have secured employment in Europe.



Birgit Schulz, Impact of light and colour on perceived space, UWE Workshop.

The participation, interaction and motivation of students for the future will continue to be a vital element in the success of any future CREATE networks. Based on Marie Curie Actions, the aim is to fund the mobility and training of a new group of researchers, and to inspire new research ideas through collaboration and professional practice. We expect that from the establishment of new cross-disciplinary groups, novel ideas will emerge for future innovative research projects.

– Carinna Parraman, Centre for Fine Print Research, UWE

The AIC Study Group on Colour Education is an international network of scientists, teachers within the field of colour (colour theory, colour design, colour psychology, etc.) and professionals such as designers and architects with a specific interest in colour education. The aims are: (1) to exchange knowledge and experience; (2) to stimulate teaching and research; (3) to inform about coming events which might be of interest; and (4) to share news from congresses, seminars, workshops, publications and exhibitions. The SG meets during the AIC meetings and congresses, but the principal means of communication is through email.

The Study Group currently has 67 members from 33 countries, but many important institutions and high-level professionals involved in colour education are still not participating, and they are invited to contact the SG Chair.

There was a brief SG meeting at the AIC 2010 Interim Meeting (Mar del Plata), but only a few SG members and some guests participated. We have much higher hopes for more activities at AIC 2011, where there will be a special Colour Education session with a number of presentations in the field. SG members, however, were very active in 2010, and here are just three examples of their varied activities in the field of colour education.

L'École Nationale Supérieure des Arts Visuels de La Cambre is a School of Art and Design in Brussels that offers a wide array of educational programmes at both Bachelor's (3 years) and Master's (2 years) levels. Felix A. D'Haeseleer and Christophe Lepot give a 90 hours basic course with the primary aim of "sharpening the student's eye to colour". During the course they use colours to construct form and space instead of simply rendering them in colour.



Exercise of observation and description of colour samples in daylight by the naked eye and by visual spectroscopy in L'École de la Cambre.

Paula Csillag regularly gives courses at the ESPM (Escola Superior de Propaganda e Marketing) in São Paulo (Brazil), and one of her favourites is the Visual Language course with a full semester of Colour Activities module, where every week for two hours the students work with paint and for the other two with computer graphics.



Visiting art exhibitions is a regular part of Paula Csillag's courses. Here Brazilian students of ESPM visit a Josef Albers exhibition.

The Gripsholm (Sweden) summer colour courses organised by AIC President Berit Bergström have been a great success for many years. In 2010 there were 17 participants from countries including Canada, Poland, Germany, Switzerland and Sweden, working with colour from different points of view from 8 o'clock in the morning till late evening. During the first two days they learned about colour perception, colour interaction, colour and patterns, colour mixing, colour associations and feelings, how colour affects us, how different light sources will affect a colour design, etc. Then they engaged in their colour design projects during the remaining three days.



Students having fun doing their colour design project in Gripsholm.

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www.aic-colour.org/sgroups.htm

AIC STUDY GROUP ON ENVIRONMENTAL COLOUR DESIGN (ECD)



A special session on 'Colour Design in Food Environments' was held at the AIC Conference in Mar del Plata.

ECD Project: Interaction of Colour and Culture

Peter Walraven provided the AIC 1972 Proceedings 'Color Metrics' (Helmholtz Symposium on Color Metrics) as a hard copy and a digitised version in the CD format.

ECD Project: Synaesthesia

At AIC 2010, Juan Carlos Sanz and Verena M. Schindler presented a paper on 'Environmental Colour Design and Synaesthesia in Food-Related Contexts'.

ECD Discussion and Outlook

In the ECD meeting in Mar del Plata, three suggestions were made which will be developed into formal proposals for adoption at the next meeting to be held in AIC 2011 in Zurich:

- 1) To expand the definition of environment to include the natural environment in conjunction with built environment;
- 2) To consider both interior and exterior environments; and
- 3) To research on issues of sustainability and colour-related environment for contribution to the AIC 2013 Congress.

Furthermore, Prof Tien-Rein Lee encouraged participants to participate in AIC 2012 with proposals for an exhibition of the Fine Arts Museum in Taipei, aiming at a cross-cultural discussion on how colours represent specific environments in architecture and design.



ECD Session 2010: (left to right) Tien-Rein Lee, Verena M. Schindler, Maria Mercedes Avila, Elisa Cordero, Maria Paula Giglio

Maria Mercedes Ávila based her approach on Heidegger's notion of space and how human beings concretely constitute urban space, interacting temporarily with their environment. The Craft and Food Street Market in the historic centre of Puebla Mexico was cited as an example.

Elisa Cordero developed a theory of transient colour environments as part of daily life of the River Market (Feria Fluvial) in Valdivia, Chile (see pictures below).

New ECD Members Registered in 2010

María Paula Giglio, Matías Presso, Mabel Tassara, José Domingo Sandoval, Lucía Constanza Maillo Puente (Argentina); Kihwan Kim, Jinsook Lee (Korea); Monica Kuo, Yuh-Chang Wei, Hwei-Lan Chang, Yen-Ching Tseng (Taiwan).

CHAIR:

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How the presence of people affects the transient colour environment in the River Market, Valdivia, Chile.

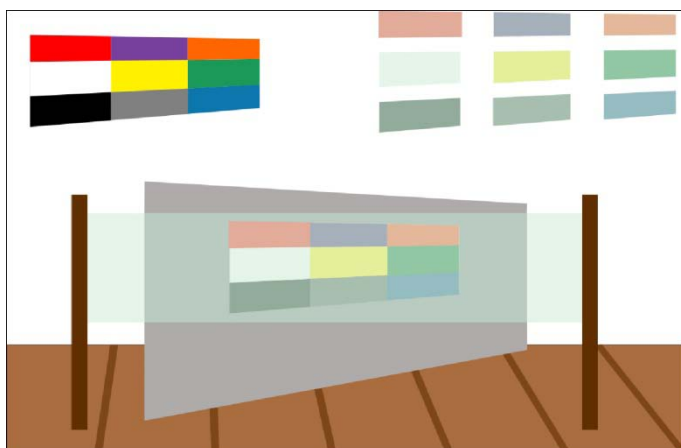
The theme of the last AIC Meeting at Mar del Plata did not accommodate visual illusions, because food and drink are strictly connected with human adaptation to the environment and illusions might be dangerous. Nevertheless some phenomena normally categorised as illusory also deal with food and drink, and hence a few papers were presented in this field at Mar del Plata, one of which is here briefly described.



(left) Glasses of beer against a uniform background;
(right) the same glasses against a multicoloured background.

Consider the three glasses of beer above left: they appear very similar and the choice to drink from one instead of the others would not be justified on a purely visual basis. However, by leaving intact the glasses and changing only the background (right), their appearance changes abruptly, and one can discriminate a clear from a turbid beer. This example shows that the context in which transparent (or translucent) objects are observed heavily influences their appearance. This statement clearly falls within the definition of illusion, which occurs when the same object appears surprisingly different in a different context.

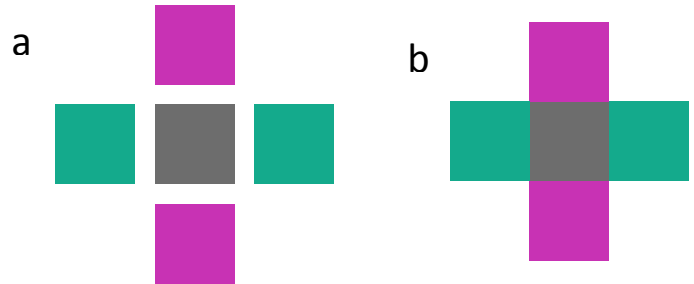
The experimental research was centred on the interaction between a transparent object and the background, when the latter is completely covered by the former. Specifically the problem was whether what one sees through and behind a transparent object keeps its chromatic characteristics with respect to when it is seen uncovered, or appears startlingly different. The observer's task was to reproduce in an uncovered part of the monitor the colours of a Mondrian observed through a coloured veil (below). The expectations were that if the Mondrian is reproduced correctly then the so-called colour constancy would occur, while on the contrary the reproduction of different colours would mean we are facing an illusion, according to the definition previously given.



A coloured Mondrian on a grey screen completely covered by a light greenish veil; (top left) the unveiled Mondrian; (top right) the reduction colours, spatially separated on a white surface.

In a control trial the observer had to reproduce the colours of the Mondrian seen without the veil (top left): the difference between the original colours and those reproduced shows the skill of the observer in this task, with remarkable results. On the contrary, the reproduction of the colours seen through the veil gave quite different results from how they appear without the veil.

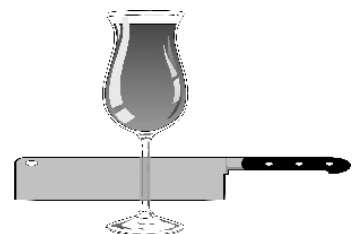
The theoretical interest in the results is that the reproduced colours not only deviate from the 'real' colours of the Mondrian, but also they get closer to the reduction colours, that is the colours of the regions as they were seen separately from the context. One of the observers actually reproduced the reduction colours with high precision, and this means she did not see the transparent veil (as a consequence of a deficit in the stereoscopic vision involved in experimental setup). We conclude that the better the transparent medium is perceived in its individual chromatic and spatial characteristics, the more correct appears the colour of an object seen through it.



(left) The reduction colours of the separated areas appear different from the same coloured areas contiguous in a cross shape (right).

Moreover some interaction between the colours of the veil and the object behind produce a complete loss of constancy, and one sees the reduction colour as if it were the colour of the back object. One can realise how different the colours appear in a reduced context in comparison with the figure organized in a cross (above). The concept of reduction colour derives from Katz (1935, *The world of colour*) who described it as the colour seen through a hole in a screen (either black, grey or white) and therefore decontextualised.

An interesting illusion dealing with glasses, and therefore easily reproducible at a sumptuously laid table, was described at MdP. Put a knife behind and perpendicular to the stem of a goblet to make a cross. Look globally at the composition, taking care to keep the knife edges aligned behind the stem, better if with one eye only. After a short time the knife appears transparent in front of the stem, which on the contrary is seen behind and through the knife.



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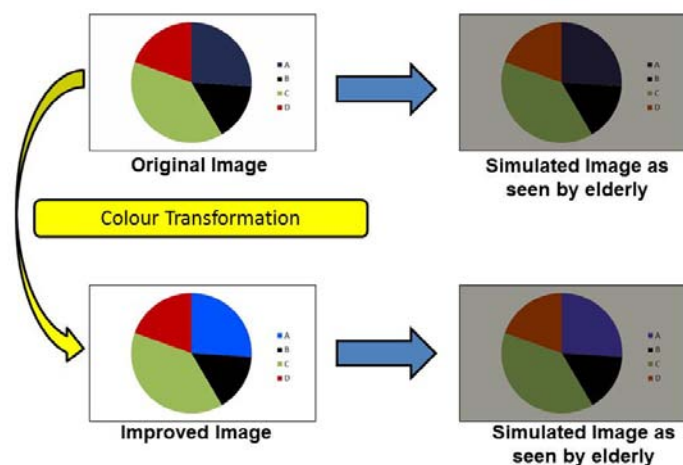
AIC STUDY GROUP ON COLOUR PERCEPTION OF THE ELDERLY (CPE)

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

Activities

1. Currently the SG has 68 members from 16 countries.
2. We are planning to hold our next symposium at AIC 2011 and/or AIC 2012.
3. We are hosting the SG homepage using the following Internet site: www.okajima-lab.ynu.ac.jp/CPESG
4. SG members published some related papers in 2010.

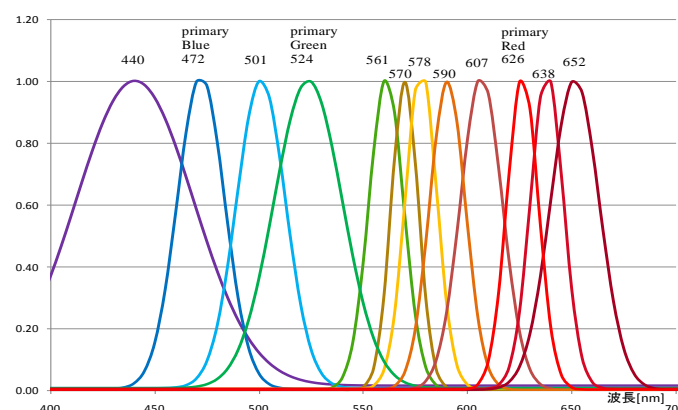
A research group (Y. Ishidai and K. Okajima) presented a paper entitled 'Color Universal Design Assistance Tool Considering Categorical Color Perception' (*Journal of the Color Science Association of Japan*, Vol. 34 Suppl., pp. 22-23, 2010). They developed an image processing tool enabling the generation of 'better' colour combinations considering visual colour characteristics of the elderly, dichromats and young observers with normal colour vision. The tool automatically searches for better colours in each category so that all colours can be optimally discriminated by all observers simultaneously. For example, it is difficult for an elderly person to discriminate between grey and dark blue, but the improved image with a brighter blue in the figure below can more easily be understood by the elderly eye.



Another research group (Y. Yamauchi, M. Suzuki, T. Suzuki and K. Okajima) presented a paper entitled 'Measurement of Color Matching Functions (CMFs) with a Compact and Simple Apparatus using LEDs' (*Journal of Vision*, Vol. 10, No. 15, Article 65, 2010). They used a single light source consisting of multiple LEDs inserted into a small integrating sphere (6" diameter). A beam splitter divides the light into two optical paths. The optical path delivered to the subject is temporally switched at a frequency high enough for the observer not to detect the flickering of the lights. The apparatus is compact and inexpensive and its optical system is simple, with all optical parts mounted on a small breadboard (450x300 mm).



By changing the timing, it is possible arbitrarily to select any combination of LEDs to present either the test or reference stimulus area, depending on the position of the shutter. Subjects adjust the intensity of the test stimulus, controlled by modulating the width of the driving pulse with 6 buttons on a controller. The head of the subject is fixed with a chin-rest. Twelve different LEDs are installed in the integrating sphere, with spectral peaks and power distributions as shown below.



This apparatus can present bipartite stimuli with a single light source by time-control of the LEDs, and could be used to measure colour matching functions. In a preliminary experiment, LEDs with peaks at 626, 524 and 472 nm were chosen as red, green and blue primaries, respectively. The luminance of the stimulus was set to 2 cd/m² (a retinal illuminance of approximately 80 td). We expect to use the system in the near future for measurement of individual CMFs of the elderly.

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Purpose

The purpose of this AIC Study Group on the Language of Colour (LC) is to discuss and share information on studies in linguistics, semiotics and cognitive science. Key topics

are colour naming and categorisation, colour synaesthesia, and the semantics of colour grammar and syntax.

Activities

At the AIC 2010 Interim Meeting in Mar del Plata, Argentina, we introduced the Study Group LC. In Korea, a small study subgroup on the Language of Colour has been formed under the Chair, Jinsook Lee. Six study sessions in total have been held every month since July 2010. Among members of the Korea Society of Color Studies, those who have submitted an application form chose one of the fields related to the Language of Colour to study every month and shared their works through presentations. The topic 'Colour Image Language', which is one of the most focused topics for a thesis in Korea, has been researched, analyzed and discussed with the existing references and expected trends.



LC study group session amongst KSCS members in Korea.

LC Website

The website of the Study Group LC at www.aiclc.ac was constructed in August, 2010. An introduction and a bibliography of relevant theses can be viewed on the web pages, and files of the theses in progress have been uploaded. There is also information about the LC members.

LC Logo

The logo of the Study Group LC, as shown at the top of this page, represents a ripple of the word phrase 'Colour Language', and was designed in Korea.



Prof Jinsook Lee addressing Study Group members at AIC 2010

Membership

- Currently about 50 members have joined the group on the website and at the AIC Interim Meeting.
- Signing up for membership can be made at all times by downloading the application form on the website and emailing it to js_lee@cnu.ac.kr

Future Activities

- The members share the definitions of research on Colour Language, and their interests set the direction of the studies.
- A discussion on the Language of Colour will be held during the study group session at 2011 AIC Midterm Meeting, based on the papers presented by LC members. Members are encouraged to share and develop opinions.

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REPORT FROM CIE DIVISION 1



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

The 2010 meeting of CIE Division 1 Vision & Colour was held 17-18 June in the Friend Center at Princeton University, USA.

Technical Committee Meetings

The advent of solid state light sources has highlighted anomalies in the present Colour Rendering Index. TC1-69 *Colour rendering of white light sources* is considering a number of alternative indices, all based on new experimental data: one strong contender is the Color Quality Index developed by NIST in the USA. Other, secondary, indices based on more subjective observer responses (colour memory and preference) may be also be considered.



The archetypical picture of Princeton University

CIELAB was developed for large colour differences: ΔE^*_{ab} values of approximately 10 and the 2° observer. CIEDE2000 was developed for colour differences in the range $0 < \Delta E^*_{2000} < 5$ and the 10° observer. TC1-63 *Validity of range of CIEDE2000* has shown that there is a potential problem with the use of CIELAB or CIEDE2000 for near-threshold colour differences ($< \sim 1$ CIELAB unit), probably due to excessive noise in the available experimental data, and that for colour differences greater than 5 units, either CIELAB or CIEDE2000 can be used, at least up to 10 units. They are now writing a Technical Report.

Technical Reports

TC1-44 *Practical daylight simulators for colorimetry* and TC1-58 *Visual performance in the mesopic range* have reports at the final CIE ballot stage.

TC1-36 *Fundamental chromaticity diagram*, TC1-37 *Supplementary system of photometry*, TC1-42 *Colour appearance in peripheral vision*, TC1-61 *Categorical colour identification*, TC1-68 *Effect of stimulus size on colour appearance*, TC1-70 *Metameric samples for indoor daylight evaluation* and TC1-73 *Real colour gamuts* are all actively writing Technical Reports.

Two reports have been submitted by Reporters: R1-36 *Action spectra for glare* and R1-37 *Definition of visual field for conspicuity*. These reports will shortly be available on the CIE Div 1 website.

New Work Items

Two new Technical Committees and two Reporters were proposed in Princeton. The first, *Validity of formulae for predicting small colour differences* is to evaluate available formulae for small colour differences ($< \sim 2.0$ CIELAB) and to define a visual threshold colour difference: Chairman, Klaus Richter, DE. The second, *Calculation of colour matching functions as a function of age and field size*, is to recommend a procedure for calculating XYZ-like colour matching functions from cone fundamentals, as a function of age and field size and to deliver a computer programme for the calculations: Chairman, Jan Henrik Wold, NO.

In addition, two new Reporters were appointed. Michael Brill (*Maxwell vs maximum saturation colour matches*) is to examine the CIE TR-185 rod-cone model, to examine the viability of the uniqueness of stimulus C for a Maxwell match, to examine the hypothesis of pigment-bleaching distinction between the matching methods, and to examine in $u'v'$ space the discrepancy reported by Wyszecki & Stiles of the spectrum loci to assess the significance of the difference. The second, Hugh Fairman (*Spectral data interpolation*) is to review all methods and make a recommendation for the interpolation of existing, highly-structured source spectra, including the F illuminants, for colorimetric calculations.

Expert Symposium

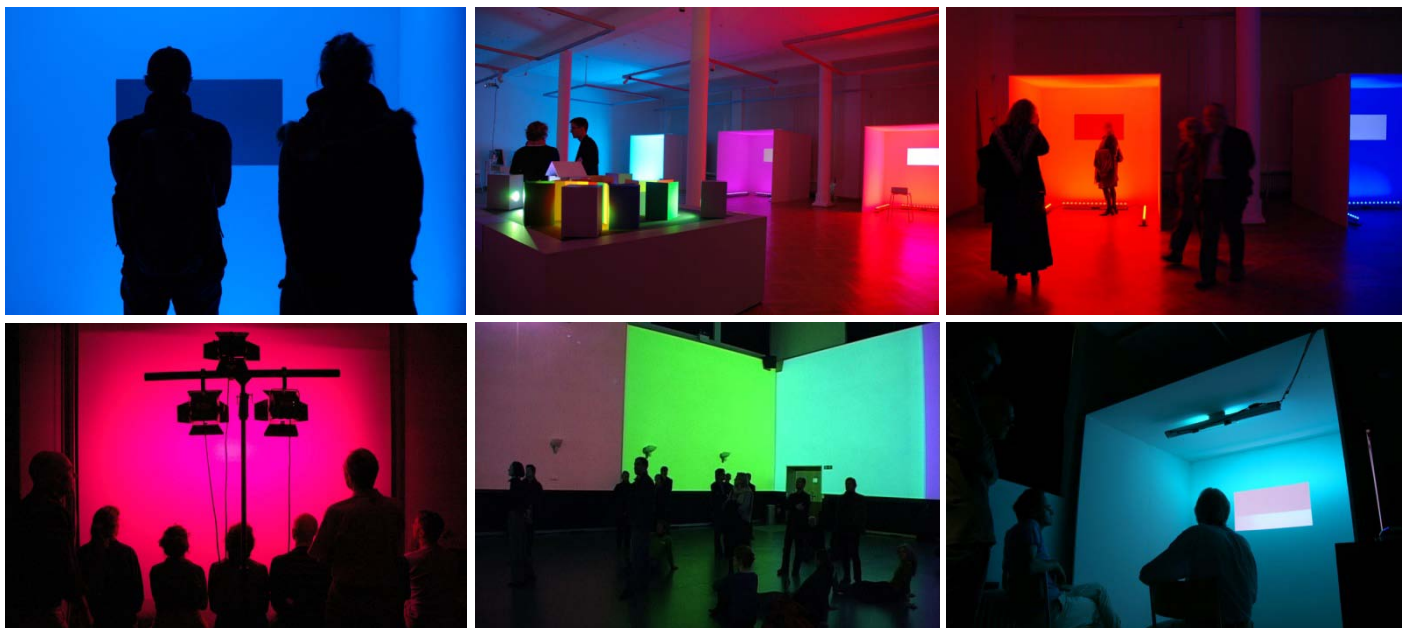
A CIE Expert Symposium on Appearance was held in Gent, Belgium on 9-11 September. 73 papers were submitted, from which a programme with 35 presentations and 38 posters was produced.

The next meeting of CIE Division 1 will be as part of the 2011 Quadrennial Meeting in Sun City, South Africa, 11-14 July.

– Dr Mike Pointer, CIE Div. 1 Secretary



CIE D1 in action – The Director, Ronnier Luo, at the podium.



INTERACTION OF COLOUR AND LIGHT IN THE ARTS AND SCIENCES

How do coloured surfaces change their appearance with coloured light? How does light interact with materials? How does light interact with colours in our environments, on stage, on digital screens, in daily life? Do we have tools to teach about colour and light interactions? How can we best explore the effects of light and colour interacting on humans? The fields of inquiry include education, design, art, media, lighting, architecture, theatre, dance, as well as psychology, colour science and technology.



The AIC 2011 Midterm Meeting aims to further discussion and nurture the latest findings in these various fields. The AIC 2011 conference to be held in Zurich, 7-10 June and organised by the Swiss Colour Association pro/colore will explore these important topics in today's scientific and artistic research communities. New technologies, materials and media are now being deployed to enhance and stimulate our experience of daily life in real and virtual environments.

The venue at the Zurich University of the Arts is renowned for colour theory and its creative atmosphere. A prominent director was Johannes Itten who served in that position from 1938 to 1954. Today the Colour Light Centre (CLC) serves to carry on this tradition, conducting important research projects and producing significant publications. The CLC research team Ulrich Bachmann, Ralf Michel, Florian Bachmann and Marcus Pericin will give the AIC 2011 Opening Lecture on Wednesday June 8th on the topic 'From Colour-Light Research to Colour-Light Teaching'. The NCS invited lecture will be given by Lino Sibillano on 'The Colour Space of Zurich: An Exemplary Research on Colour, Texture and Light in Urban Space',

and the Philips invited lecture will be by Markus Reisinger on 'Facilitating Surface, Colour and Lighting Choice'. On Thursday evening, 9th June, the winner of the AIC 2011 Judd Award, Dr Lucia Ronchi, will speak on 'Experimentation in Colour Vision'.

It is perhaps the first time that an AIC conference has been fully booked by the early registration deadline, with 290 participants from around the world working in many different research fields. There were 325 extended abstracts submitted by more than 500 authors and co-authors, coming from 43 different countries on all five continents. As the AIC 2011 Midterm Meeting is scheduled as a single-track programme, there is time for only 45 oral presentations, plus 3 invited talks and the Judd Award presentation, so only 14% of submissions can be presented as orals. Also, there is space for a maximum of 150 posters to be presented in the poster sessions.

The conference dinner will be held at the Guildhall of the 'Zunft zur Meisen'. The interior of the guild house Meisen includes stucco ceilings, wall paintings, masonry heaters and other features that are among the most beautiful Rococo creations that still exist in Zurich. In addition, a welcome reception, a walking tour through the old and colourful city centre, and an excursion to new developing districts of Zurich are scheduled on an optional basis for all AIC 2011 participants and accompanying guests.

Verena M. Schindler
AIC 2011 General Conference Chair



AIC 2012 INTERIM MEETING – TAIPEI, TAIWAN

22-25 September 2012

'In Color We Live: Color and Environment' is the topic for the AIC 2012 Interim Meeting in Taipei. Understanding the physiological and psychological effects of colours in man-made environments and nature contributes to creating healthier living spheres through colourful design applications. The aim of the conference is to examine how colour interacts with our daily life, and how hue, vision, light and colour temperature affect human bio-energetic response. The Color Association of Taiwan (CAT) is pleased to conduct this event as a formal member of the AIC.



Taipei 101 Tower

Pre-conference lectures and workshops will provide for meeting local academic and other institutions. Besides, a visitor programme will offer excursions to various places to enjoy the natural beauty of Taiwan. An international survey on Colour and Culture will be conducted in 2011 in order to examine colour preferences from traditional and modern cultural perspectives. The results of the survey will be presented in a poster exhibition during the meeting.

Venue

The Chinese Culture University (CCU) is one of the leading universities on Chinese cultural studies in Taiwan. Founded in 1962, CCU has continuously built up its reputation, and nowadays counts 25,000 students per year. CCU holds more than 80 partnership agreements with international universities. Promoting advanced colour studies, the university recently established the Center for Colour Culture and Informatics, with an academic profile unique to Taiwan.



Chinese Culture University is located in the hills above Taipei city

Taiwan is an island of outstanding natural beauty. Leaving Taipei city and its landmark, the 101 Tower, visitors can soon encounter fascinating views of the rough north-eastern coastline or enjoy the hot springs of Yang Ming Shan. Taiwan's cuisine is a melting pot of all of China's regional culinary styles, including vegetarian and native Taiwanese taste. Night markets provide a sensual experience of colours, shopping, and entertainment for all age groups



Topics of the Call for Papers

Colour Culture: aesthetics, history, philosophy, transportation, food, medical & personal care, warning systems.

Colour Communication: interpretation, colour codes & symbols, semiotics, visual communication & design, colour naming & language, colour categorisation, colour order systems.

Colour Education: pedagogy, terminology, methodology, electronic media applications, teaching aids.

Colour and Environment: nature, lighting, interior architecture, exterior architecture, landscaping & horticulture, urban design.

Colour Science and Technology: vision models, colour physics & colour chemistry, image reproduction, colour management systems, high dynamic range imaging, multispectral imaging, computational photography, multimedia in colour imaging, 3D colour imaging, virtual reality (VR) and augmented reality (AR), display and printing, colorimetry, industry applications.

Colour Psychology: colour perception, colour preference, physiology and psychophysics, light and colour interaction, colour vision and aging, visual illusions & effects, defective colour vision.

Colour in Art and Design: fashion design, performance, painting, sculpture and installations, ceramics and glass, jewellery and metalwork, art conservation.

Colour Synaesthesia & Visionary Projects

Accommodation

The Taipei Grand Hotel, placed on a hill with a scenic view of Taipei city, is within a 20-minute drive from CCU and offers first-class accommodation for AIC 2012 participants.



Nearby, the National Palace Museum hosts the world's most famous collection of traditional Chinese Art. In 2009 alone, the museum attracted more than 2.5 million visitors to see selections of the entire collection of 677,687 objects.



The conference hall at Chinese Culture University

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

More information: www.aic2012.org

Tien-Rein Lee, General Chair

8-12 July 2013

The 12th Congress of the AIC will be held in north-east England on the theme **Bringing Colour to Life**. The spectacular venue will be The Sage Gateshead, designed by Lord Norman Foster and located on the south bank of the River Tyne, across from the city of Newcastle. Special events during the week include a reception in BALTIC, a dynamic gallery dedicated to contemporary visual art, an orchestral concert themed on colour-music synaesthesia, a banquet in the gardens of a castle and an excursion to Durham Cathedral, a World Heritage site.



The Sage Gateshead – a spectacular venue for the Congress

The subject of colour in the natural world will encourage the multi-disciplinary ethos of the Congress to explore ways of using colour sustainably and synergies between technology and nature. Topics will include sustainable colour in textiles and fashion, creative use of colour in the built environment, and colour responses to the natural world:

- Green chemistry – environmentally friendly coloration
- Colour vision – physiology, neurology
- Applications of colour science – food, medicine, forensics
- Colour imaging – measurement, management, devices
- Colour psychology – perception, emotion
- Colour psychophysics and appearance, vision models
- Colour communication – meanings, semiotics, language
- Colour in the built environment – including health benefits
- Sustainable coloration in fashion and textiles



BALTIC Centre for Contemporary Art



Special colour symposia within the Congress will include:

- (1) Colour Harmony
- (2) Sustainability in Textile Coloration
- (3) Multispectral Colour Imaging
- (4) Human Colour Vision from Retina to Cortex
- (5) Colour Education and industrial Best Practice

In addition to the conference sessions there will be a strong educational component. This will be the first time that colour education for children, students at school and university, and other interested parties will be promoted and delivered during the week. There will also be a particular emphasis on Best Practice for the coloration industry.



Alnwick Castle, Northumberland

The glorious countryside of Northumberland and surroundings provides many opportunities for visiting nearby sites such as the Angel of the North, Alnwick Castle, Bamburgh Castle, Hadrian's Wall, Lindisfarne Priory and the new green goddess of Northumberlandia. This will be a Congress to remember!

Lindsay MacDonald and Stephen Westland, Co-Chairs



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

www.aic-colour.org