



ANNUAL REVIEW EDITORS' NOTE

BY

MAURIZIO ROSSI - POLITECNICO DI MILANO, ITALY

INGRID CALVO IVANOVIC - UNIVERSIDAD DE CHILE, CHILE

ANNUAL REVIEW EDITORS' NOTE

BY
MAURIZIO ROSSI -
POLITECNICO DI MILANO, ITALY

INGRID CALVO IVANOVIC -
UNIVERSIDAD DE CHILE , CHILE

COLOR WORLDWIDE: A REVIEW OF 2024 TYPES OF RESEARCH, APPLICATIONS, EDUCATION, SOCIAL IMPACT, AND CULTURE

Abstract

This contribution offers a reasoned overview of the activities carried out during 2024 in all areas of research, application, education, dissemination, social and cultural, of the associations and study groups that belong to the AIC - International Colour Association. Thematic areas organize the contents to provide a transversal vision of the main areas of research, application, education, and dissemination related to color. The approach adopted is descriptive and designed for a community of teachers and researchers active in multiple disciplinary fields involving color. The richness and variety of the activities reported by the associations and study groups testify to the vitality of an international network developed worldwide, engaged in multiple directions: from scientific research to education, from design applications to artistic experimentation, up to social and cultural impact. The year 2024 also saw the celebration of significant anniversaries, the publication of scientific and dissemination volumes, the organization of international and national conferences, and active participation in the AIC2024 Midterm Meeting in Sao Paulo, Brazil.

1. Scientific and technological research

During 2024, many AIC member associations conducted and presented scientific research on color, ranging from theoretical foundations to applications in imaging, perception, conservation, and the built environment. In China, the Color Association of China coordinated

the seminar “*Color Science and Image Technology*”, with interventions on the topics of HDR imaging, spectral rendering models, and ISP technologies, also presenting studies related to the digital conservation of historical sites, such as the Yungang caves, through three-dimensional reconstructions and dynamic lighting strategies (CAC, 2024). While in Italy, the lighting research group of the Università Federico II di Napoli explored the effects of colored light radiation on fungal proliferation on painted surfaces and conducted experimental studies on the influence of color partitions in work environments on visual comfort indices and circadian activation (GdC-Italy, 2024). The Asociación Chilena del Color has coordinated archaeometric studies on mineral pigments in pre-Columbian cultures, with a particular focus on the Inca period, documenting the ritual and symbolic functions of color in religious and funerary contexts (ACC-Chile, 2024). Also, in the food and environmental fields, the Associação Portuguesa da Cor has reported research on the influence of packaging color on the perception of organic products and the ecological impact of color in sustainable housing projects (APCor, 2024).

In Germany, the Deutsche Farbwissenschaftliche Gesellschaft celebrated its fiftieth anniversary with a conference focused on chromatic metrology, proposing an innovative approach to color measurement based on the responses of visual cones, in line with recent developments of the CIE (DfwG, 2024). The Color Science Association of Japan presented advanced research in metamerism and appearance modeling in fluorescent materials, some of which were awarded during the annual meeting (CSAJ, 2024). In parallel, in Spain, Juan Serra (Universitat Politècnica de València) conducted a study on the perception of spatial dimension in virtual environments with different color schemes, demonstrating the effectiveness of virtual reality as a tool for psychophysical analyses on volume perception (AIC-Spain, 2024) (Serra, Abebe, & Murdoch, 2024).

2. Applications of color in art, design, and architecture

Design and artistic applications of color were a central focus of the 2024 activities, showing how color is a powerful tool for expression, communication, and identity in material and digital contexts.

Rune & Berg Design, Finland, received the Iris Award for the innovative use of color in the design of educational and working environments, highlighting the role of color in building inclusive and inspiring environments (SVY, 2024). The Swedish Colour Centre Foundation celebrated ten years of the “*Prisad Färg / Awarded Colour*” competition, awarding young designers and artists who explored the relationship between color, folklore, symbolic graphics, and sustainability through techniques such as vegetal dyeing and textile composition (SCF, 2024).

Activities at the Centre Français de la Couleur included artistic interventions with natural pigments, exhibitions on the symbolic representation of color, and participatory performances related to gender and identity (CFC, 2024). Of particular importance was the reflection on color in contemporary queer culture, developed through workshops, round tables, and publications. In Portugal, APCor has initiated the publication of volumes on *Colour: Health, Wellbeing and Comfort*, aimed at exploring the role of color in improving the quality of life, in the architectural, therapeutic and environmental fields (APCor, 2024). The Pro Colore Association in Switzerland proposed experiential events in visual design, interior architecture, and public communication. Among these, the workshops on using color in multisensory contexts and orientation for the visually impaired demonstrated a strong commitment to accessibility and inclusion (ProColore, 2024).

The GdC-Associazione Italiana Colore promoted initiatives ranging from historical research to contemporary innovation: urban color design

ANNUAL REVIEW EDITORS' NOTE

workshops, CMF (Color, Material, Finish) studies in the furniture sector, and interdisciplinary projects such as *“Color for Peace”*, in which color is used as a symbolic mediator between aesthetics and historical memory (GdC-Italy, 2024). In Norway, FORUM FARGE presented projects that combine color and architecture in a social way (FORUM FARGE, 2024), while in Belgium, ICA-Belgium supported activities in urban art, co-design, and participatory color design in public spaces (ICA-Belgium, 2024).

3. Education, training, and color literacy

Color education has been at the center of the activities of many associations through training courses, dissemination initiatives, and school and professional projects, both in person and online.

One of the leading international projects is the Colour Literacy Project (CLP), supported by ISCC-USA. The CLP has published open-access resources for teaching color as a meta-discipline and has organized thematic forums in 2024 on topics such as *“Color in Context”*, *“Interaction of Colour and Light”*, *“Color through Time”* and *“Color in Cultural Contexts”* (ISCC, 2024).

In Finland, the *“Color Pedagogy 2030”* seminar brought together teachers, researchers, and practitioners to discuss new approaches to teaching color, focusing on the digital transition and integrating theory and practice (SVY, 2024). In addition, seven doctoral

students active at Finnish universities have included color in their research projects. While in Japan, the CSAJ organized a *“Color Science Tutorial”* for high school students and awarded young researchers at the annual meeting for advanced studies on the vision and appearance of materials (CSAJ, 2024). The *“Color and Lighting Technology”* symposium in Taiwan included talks on art education and color pedagogy in design; the iPAS certification in Color Planning and Color Engineering trained over 10,000 professionals in seven years. The 2024 national symposium included sessions on teaching color and light in creative and technical contexts (CAT, 2024). In Sweden, the *“Young Color Power”* project created a network of teachers and designers who promoted workshops on using color in teaching and craft experimentation, including inlay and natural surfaces (SCF, 2024). In Norway and Canada, color education has been the focus of public events, seminars, and museum activities, aiming to strengthen critical knowledge and interest in color among young people and the general public (FORUM FARGE, 2024; CRSC, 2024).

4. Events, conferences and seminars

During 2024, Regular Member associations organized and participated in numerous events, conferences, and seminars, contributing to the diffusion of color culture in scientific, educational, and professional contexts. In the UK, the Colour Group (GB) organized the symposium *“Colour in Film”* in collaboration with

universities, film archives, and the British Film Institute, addressing issues of restoration, perception, and color reproduction in audiovisual media (CGGB, 2024). While in Italy, the GdC-Associazione Italiana Colore promoted the international conference “*Color Photography and Film: Sharing Knowledge of Analysis, Preservation, Conservation, Migration of Analogue and Digital Materials*” in Amsterdam, together with European universities, with 90 participants, in person and online, attendance remained consistent with previous editions, which collectively hosted around 140 attendees, and organized the “*XIX CdC Color Conference 2024*” in Florence, with 52 papers distributed in six thematic sessions (GdC-Italy, 2024).

In Germany, the DfwG held the “*Stadt Land Farbe*” conference with over 180 participants dedicated to color in urban and rural spaces. The program included presentations on environmental design, contextual perception, and color strategies in territorial development (DfwG, 2024). Also in Switzerland, Pro Colore organized six “*Museum Days*” in collaboration with cultural institutions and museums, including the Kunsthaus Zürich and the Museum für Gestaltung, dedicated to color in the history of art, design, and perception (ProColore, 2024).

The XIV National Congress of Color took place in Spain, with contributions from universities, industries, and research centers. The topics covered included spectral imaging, visual psychophysics, multisensory design, and educational strategies (AIC-Spain, 2024). While in Portugal, APCor celebrated International Colour Day with a public event at CIAPS. The Swedish Colour Centre Foundation celebrated its 60th anniversary with exhibitions, meetings, and artistic activities (APCor, 2024; SCF, 2024). During the AIC2024 Midterm Meeting in São Paulo, Brazil, many associations and study groups presented scientific contributions, posters, thematic symposia, and promotional activities. In particular, the Colour Association of Taiwan promoted the AIC

Congress 2025, scheduled in Taipei, with materials and presentations during the event (CAT, 2024).

5. Awards, recognitions and association activities

Numerous awards, recognitions, and institutional initiatives have accompanied the activities of the AIC associations and study groups in 2024, valorizing established figures and new generations of professionals. In many countries, including Belgium, Portugal, Canada, and Brazil, the associations have continued their association activities with annual assemblies, newsletter publications, collaborative workshops, and strengthening relationships with institutional partners and industrial sponsors. In Switzerland, the “*pro colore GA*” subscription has been introduced, which allows members free access to all annual events (ProColore, 2024).

The ISCC has awarded the Macbeth Award to Leslie Harrington (AIC Past-President) and Anat Lechner for the HueData project, a data-driven color strategy and analysis platform. The Nickerson Service Award went to Rachel Schwen for her multi-year organizational contribution (ISCC, 2024). In Italy, the “*Premio del Colore*” was awarded to Valerio Adami, an artist known for the symbolic and narrative power of color. Prof. Maurizio Rossi (President AIC) received the “*Italian Knowledge Leader 2024*” award for his scientific and popular activity in the fields of color and light (GdC-Italy, 2024).

In Japan, the CSAJ awarded young researchers for studies on metamerism, material appearance, and color perception, while in Germany, academic theses on brilliance phenomena and the psychophysical response to colored light were awarded (CSAJ, 2024; DfwG, 2024). While in Sweden, the tenth edition of the “*Awarded Colour*” competition was celebrated with an exhibition and a participatory performance by artist William Wahlström, who transformed colored footprints into collective works (SCF, 2024).

ANNUAL REVIEW EDITORS' NOTE

6. Social, cultural, and environmental impact of color

Many projects in 2024 highlighted the importance of color as a tool for social inclusion, ecological sustainability, and cultural valorization.

The “*Latin America in Color*” project involved children in vulnerable conditions in creating color catalogues starting from waste materials in Chile. The aim was to promote cultural identity and ecological awareness through visual experience. Also in Chile, “*Los Ríos in Colours*” produced a color mapping of the country’s south, integrating environmental observations, community art, and territorial data, with the support of universities and municipalities (ACC-Chile, 2024).

In France, the CFC promoted activities related to the semiotics of color in queer representation (Bideaux, 2024) through exhibitions, publications, and artistic talks (CFC, 2024). While in Switzerland, the workshop “*Colour, Material and Visual Impairment*” explored the use of color in environments for the visually impaired, involving users and designers (ProColore, 2024). In Portugal, color has been central to projects on environmental comfort and chromatic sustainability in the healthcare and social sectors (APCor, 2024). In Norway, events and workshops have explored color as an element of community cohesion (FORUM FARGE, 2024), while in Canada, the CRSC has kept active its dissemination initiatives related to color in environmental psychology and mental health; CRSC, 2024).

7. AIC Study Group Activities

The six AIC Study Groups have had an eventful and productive year in 2024, engaging in diverse initiatives that have enriched the study and application of colour across multiple disciplines. Each group has contributed significantly to advancing research, education, and practical applications in their respective fields.

The AIC Study Group on Arts and Design (SG AD) organized several key events, including a workshop during the AIC 2024 Meeting in São Paulo, Brazil. A major focus was placed on integrating synaesthesia into colour selection and artistic expression, offering children a transformative experience that connected sensory perception with creativity. These initiatives aimed to explore how sensory perception influences artistic decision-making and how colour interactions shape visual communication. Beyond workshops, SG AD is planning to host a series of online forums featuring global speakers exploring state-of-the-art methods in analysing historical painting techniques, with the first forum planned for International Colour Day 2025, in collaboration with the Colour Society of Australia. Additionally, in partnership with the Portuguese Colour Association and the Colour and Light Research Group, SG AD prepared for the 20th Anniversary celebration of the Colour Lab-Lisbon School of Architecture, further strengthening interdisciplinary research and collaboration. The group also expanded its research focus on the intersection of digital tools and traditional

artistic media, offering new insights into contemporary artistic practices.

The AIC Study Group on Colour Education (SGCE) focused extensively on the Colour Literacy Project, which progressed into its second phase of beta-testing. This initiative involved partner schools across the UK, China, and the US, expanding resources and exercises for colour education. With an emphasis on accessibility and inclusivity, the project sought to develop innovative teaching tools that cater to a diverse range of learning styles. SGCE also hosted four Colour Literacy Forums throughout the year, covering a range of topics from the historical significance of colour to its interaction with light and its societal roles in identity and gender. These forums brought together experts from various disciplines to engage in dynamic discussions, furthering the group's mission of promoting comprehensive colour literacy. The group's participation in the AIC Mid-Term Meeting in São Paulo was also notable, featuring paper presentations and an interactive game session that reinforced the importance of hands-on learning in colour education. Looking ahead, SGCE aims to integrate new digital resources and online platforms to reach a wider audience and enhance the effectiveness of its educational initiatives.

The AIC Study Group on Colour Vision and Psychophysics (SG CVP) explored fundamental aspects of colour perception, particularly in the context of observer metamerism and wide-gamut colour displays. This issue, which arises when variations in individual cone spectral sensitivities lead to perceptual differences in displayed colours, was the focus of a study presented at the ICVS 2024 conference in Slovenia. The research highlighted how colour-matching tasks reveal perceptual discrepancies in individuals with anomalous trichromacy, shedding light on the challenges posed by modern display technologies. The study group continued its commitment to knowledge dissemination

by maintaining its homepage and preparing to launch a new website to facilitate broader engagement within the scientific community. Additionally, SG CVP expanded its focus to examine the effects of ambient lighting conditions on colour perception, investigating how environmental factors influence visual processing and perception accuracy.

The AIC Study Group on Environmental Colour Design (SG ECD) explored the role of colour in urban landscapes through a seminar titled "*Colourful Landscape/Vibrant City*." Bringing together experts in architecture, landscape design, and digital aesthetics, the event examined the historical and contemporary use of colour in urban settings. Discussions provided critical analysis of how colour has been applied in landscape architecture over the centuries, as well as practical applications of heritage and contemporary colour palettes to enhance urban aesthetics. Additionally, the growing trend of bold, saturated colours in urban spaces was analysed, with particular attention to the influence of social media and global branding strategies. The study group's meeting in São Paulo also facilitated engagement with influential research in the field, fostering an ongoing exchange of ideas. Furthermore, SG ECD expanded its Special Collection in the journal *Color Research and Application*, adding several new studies on environmental colour analysis and urban colour planning. Future projects will focus on the sustainability of colour applications in urban environments, aiming to integrate ecological considerations into design strategies.

Linguistic and cognitive aspects of colour continued to be a major area of focus for the AIC Study Group on the Language of Colour (SGLC). With a global membership spanning 63 countries, the group maintained an active presence on social media and launched a dedicated LinkedIn group. Throughout 2024, members contributed to key publications in cognitive and linguistic colour research, including studies on bilingual perception

ANNUAL REVIEW EDITORS' NOTE

of colour, colour categorization across cultures, and the semantics of colour in different languages. Several SGLC members presented research at the 27th International Colour Vision Society Symposium, where discussions ranged from cross-lingual comparisons of colour perception to the impact of ageing on colour language. As the group marked its 10-year milestone, new leadership is expected to guide the next phase of its work in 2025, ensuring continued development in the field of colour linguistics. Additionally, SGLC has started working on a global colour lexicon project, aiming to document and compare colour naming conventions across different cultures and languages, providing valuable insight into the relationship between language, cognition, and perception.

A newly formed addition to the AIC's network of study groups, the AIC Study Group on Colour in Games and Toys (SG CGT), was officially established in February 2024. This group is dedicated to exploring how colour influences gaming experiences, the psychology of colour in toys, and colour accessibility for players with visual impairments. During the AIC2024 Midterm Meeting in São Paulo, the SG CGT organized a special session on *Colour in Games and Toys*, bringing attention to how colour can enhance or hinder gameplay experiences. Additionally, the group participated in the Italian Colour Association's conference, where three papers focused on colour's role in board and role-playing games. One of the most significant initiatives undertaken by SG CGT was its involvement in the

Game4CED project, a government-funded initiative in Italy aimed at designing board games to facilitate early detection of colour blindness in children. By integrating accessibility metrics into game design, this project seeks to improve inclusivity in educational settings. A major outcome of this initiative was the development of ColorFit, a print-and-play board game designed to help identify colour blindness in schoolchildren while promoting awareness among educators. Beyond this, SG CGT is planning to conduct empirical studies on the role of colour contrast in digital gaming experiences and its effects on player performance and engagement.

The collective efforts of the AIC Study Groups in 2024 demonstrate a sustained commitment to advancing colour knowledge, research, education, and application across multiple disciplines. Whether through engaging educational initiatives, scientific exploration of colour perception, or practical applications in urban design and gaming, each group has contributed to a deeper understanding of colour's impact on society. Looking to the future, these study groups will continue to expand their research and outreach efforts, incorporating new technologies and interdisciplinary approaches to ensure that colour remains a dynamic and evolving field of study within the AIC community.

Conclusions

The analysis of the activities carried out in 2024 by the associations and study groups belonging to the AIC – International Colour Association highlights a highly active, articulated, and diversified scientific, design, and cultural community. The initiatives described in the annual reports demonstrate a constant commitment to theoretical study, applied experimentation, interdisciplinary dissemination, and the construction of international collaboration networks. From a scientific point of view, the research conducted ranges from spectral imaging to the appearance of materials, from visual psychophysics to perceptual

education, showing significant progress in the knowledge of color as a complex and multifactorial phenomenon. Applications in design, art, and architecture have revealed a growing attention to the issues of sustainability, cultural identity, and environmental experience.

Color education emerges as a transversal element, with projects combining theory and practice, aiming to train a new generation of aware and interdisciplinary researchers, experts, and professionals. Events and conferences are crucial in strengthening international dialogue and promoting the exchange of experiences and approaches between the various disciplinary fields. Finally, initiatives with a social and cultural impact show how color is also a tool for inclusion, personal and collective expression, memory, and social transformation. In this sense, the AIC network is configured as a privileged observatory, capable of reflecting the complexity of the contemporary world through the lens of the culture of color. The hope is that these activities can continue to develop and contaminate each other, generating new synergies between research, design, education, and society in an increasingly open, plural, and transdisciplinary dialogue.

Acknowledgments

We want to thank all the AIC members, the AIC Study Groups, the past and future organizers of the AIC Congresses, and Midterm Meetings for the information they have provided us to realize this volume. A special thanks go to the people who have allowed us to systematize the archive of the AIC Annual Reviews/Report/Newsletters of the AIC from 1984 to today: Leslie Harrington and Gianluca Guarini. A warm thanks also goes to Alessandro Bottolotti, who helped to manage the peer review process of the various chapters of this volume.

References

- ACC-Chile. (2024). Annual Review 2024. Asociación Chilena del Color.
- AIC-Spain. (2024). AIC Annual Review 2024. Grupo Español del Color.
- APCor. (2024). Relatório de Atividades 2024. Associação Portuguesa da Cor.
- Bideaux, K. (2024). Queer Futures, Violet Futures: Queer Modernity Symbolism of Violet in West Culture. *Cultura e Scienza Del Colore - Color Culture and Science*, 16(02), 118–126. doi: 10.23738/CCSJ.160212
- CAC. (2024). Annual Review 2024 from China for AIC. Color Association of China.
- CAT. (2024). Taiwan 2024 Anniversary Report. Colour Association of Taiwan.
- CFC. (2024). CFC – Rapport d’activités 2024. Centre Français de la Couleur.
- CGGB. (2024). AIC Report 2024. Colour Group (Great Britain).
- CRSC. (2024). Annual Report 2024. Colour Research Society of Canada.
- CSAJ. (2024). CSAJ 2024 Annual Report. Color Science Association of Japan.
- DfWG. (2024). DVF Germany AIC Report 2024. Deutsche farbwissenschaftliche Gesellschaft.
- FORUM FARGE. (2024). Annual Report 2024. Forum Farge – Norwegian Colour Association.
- GdC-Italy. (2024). Relazione attività annuali 2024. GdC - Associazione Italiana Colore.
- ICA-Belgium. (2024). ICA-Belgium AIC Report 2024. International Colour Association Belgium.
- ISCC. (2024). 2024 ISCC Contribution to AIC Annual Report. Inter-Society Color Council.
- ProColore. (2024). 2024 Report for Annual Review. Pro Colore – Swiss Colour Association.
- SCF. (2024). Annual Report 2024. Swedish Colour Centre Foundation.
- Serra, J., Abebe, M. A., & Murdoch, M. J. (2024). Virtual Reality to Evaluate the Size of Interiors with Different Colors. In L. Hermida González, J. P. Xavier, A. Amado Lorenzo, & Á. J. Fernández-Álvarez (Eds.), *Graphic Horizons* (pp. 289–296). Cham: Springer Nature Switzerland. doi: 10.1007/978-3-031-57575-4_35
- SVY. (2024). Annual Report 2024. Finnish Colour Association (Suomen Väriyhdistys).