



Inter-Society Color Council News

Issue 431

January—February 2008

President's Column

In this column I usually write about ISCC news and upcoming meetings. However, you can read about the fall Baltimore meetings and the “Black and White” Meeting in Portland elsewhere in this issue or on our re-designed website. Also, new Board candidates will be featured in the next issue.

So instead I will write about archival color, one of my current interests in color and part of a broader interest in the long-term preservation of digital images and documents.

One focus of this interest is the CIE Technical Committee on Archival Color Imaging. This committee is part of CIE Division 8 on Imaging Technology, which was established in 1998. The first round of committees in Division 8 looked at topics such as gamut mapping, color appearance, color encoding and fluorescence, all in the context of images and imaging media. I chaired the committee on the Communication of Color Information, which issued a report on color encodings. With Archival Color, my interest has shifted to the communication of color information into the future.

The Archival Color committee, formally known as CIE TC8-09, is one of the second set of committees formed in the Division. According to its terms of reference, the committee is “to recommend a set of techniques for the accurate capture, encoding and long-term preservation of color descriptions of digital images that are either born digital or the result of digitizing 2D static physical objects, including documents, maps, photographic materials and paintings.” Pretty broad.

“Accurate” implies that the born digital image or the digitized object is the reference and that the objective is being able to recreate it or an acceptable facsimile of it in the future. This leaves aside the question of restoration or other interpretation based on the digital material. An interesting question though is what does accurate capture of a black-and-white or color negative mean? Presumably it means capturing the tone range of original analog material and with it all the rendering options offered by it.

While capture puts the emphasis on input rather than output, the method of capture and subsequent encoding enables future rendering options and should therefore not be limited to current rendering options. It is here that questions of multiple views, goniometric methods and

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spectral versus trichromatic measurements come into play. For example, conference papers in recent years have discussed goniometric imaging systems to capture surface texture in objects and spectral systems to capture surface reflectance in objects with multiple pigments or inks. However for reasons that have to do with feasibility and cost, trichromatic capture and encodings are still the norm.

The question then becomes selecting an encoding that will capture the range of colors in the original without loss. "Without loss" means that colors that are distinguishable in the original are distinguishable in the description and can be recreated, perhaps allowing for some round-off errors. Therefore gamut compression is not part of the capture process.

Different materials can have different ranges of colors, and a number of RGB-based color encoding have been proposed over the years. Familiar ones are sRGB and its follow-ons. Adobe RGB 98 and Pro Photo RGB, all of which are output encodings with defined viewing conditions. (Pro Photo RGB has an analogous input encoding.) The progression has been to grow the size of the color space and the range of colors that can be encoded. The usual tradeoff is covering as many colors as possible or as required versus using as many bits as can be afforded. In the limit is XYZ, which can cover all physically realizable colors. XYZ with a 12-bit non-linear encoding is what Digital Cinema uses for distributing digital movies to theaters.

All these choices are made in the context of long-term preservation. According to the Open Archival Information System (OAIS) Reference Model, a widely-cited recommendation in the field of digital preservation, long term is "long enough to be concerned with the impacts of changing technologies, including support for new media and data formats, or with a changing user community." The goal is to make choices that have a high degree of sustainability and that can survive changing technologies or minimize their dependence on them.

With all this as background, what the Archival Color committee is doing now is focusing on a few specific applications, both to narrow the scope and test the approach. Interested in learning more or contributing to the discussion? Feel free to contact me.

Robert Buckley
ISCC President

HUE ANGLES

(Send contributions to Michael H. Brill, mbrill@datacolor.com)

Thor Olson has captivated audiences at IS&T/SID Color Imaging Conferences with his creative astrophotography. In 1998 he showed stereo images with millions of miles between the “eyes,” in 2002 he showed colors of the deep sky, and last November he explored colorful high dynamic range. Here he describes an encounter with nearer planetary objects.

Cows and Other Hazards of Color Science

The Color Imaging Conference is always an inspiration for me, and the 2006 meeting in Scottsdale was especially so. Having just taken Greg Ward’s conference tutorial on high dynamic range (HDR) imaging, I was excited about applying it to astrophotography.

A plan was made. Following the conference, I traveled to Monument Valley, a remote corner of Arizona where I could find desert skies to take exposures through my telescope for HDR image stacking.

The weather was clear, cool, and windy, and I found protection on the veranda of the Navaho Tribal Park’s visitor center. To gain my night vision I temporarily unscrewed the security floodlights, and then spent a productive evening taking pictures of the night sky. I imaged some of my favorite astrophoto targets at the exposure times I would need to compute an HDR composite. The pleasant challenges of the evening came to a close as I realized how cold I had become. I packed up and started the drive back to my hotel in Kayenta, twenty miles away.

Driving home after a night’s observing is always more challenging than the drive out. It is late, or rather, early morning, your blood sugar is at its diurnal lowest, and your usual bedtime was hours ago. If you are like me, you are pumped up from observing the sky on a clear night. Running the defroster at full strength to the windshield, you are in an odd mix of mental and physical states.

The roads are empty, and even though you are not looking directly at them, the blast of your headlights onto the pavement ahead obliterates the night vision you had so carefully cultivated and protected throughout the night. The world that you had so

easily navigated with nothing more than starlight and a dim red lamp, now closes in to a narrow tunnel of visibility directly in front, and the best you can do is follow the reflective dotted line down the center of the road.

Signposts advised me to watch for animals and so I proceeded with vigilance, expecting rabbits or maybe coyotes. I made it all the way back to the town and a few blocks from my hotel, when I noticed cows grazing beside the road. No, they were ON the road.

This was odd, since fencing parcels all the grazing land. Where the road interrupts the barbed wire, a cattleguard is used—bars of steel, spaced to make it hard for a cow to cross (its foot slips into the gaps), but allowing tires to roll across. Somehow, these cows had ended up on the wrong side of the fence. And they probably couldn’t get back!

I looked to the other side of the road. Cows were milling around there too. I was surrounded, and suddenly I was about to plow into one! What?! Huh? I slammed on the brakes but it was too late.

Just before the collision I felt the world in slow motion. I thought I would suffer the fate of drivers from my part of the country that encounter large moose and elk; the animal is gutted as it crashes through the windshield and its butchered parts are delivered into the driver’s lap. Sometimes the driver survives. My mind raced in my time-altered world, but my body couldn’t react.

The car smacked into the cow, which skidded up the hood. Before reaching me, however, it stopped, slid back, and flipped onto its other side, flat on the road. Then the poor animal somehow got to its feet and staggered off.

I survived too. My speed was low enough, and the cow soft enough, so even the airbags stayed

Continued on page 4

Continued from page 3

stowed. With the cows watching carefully (one with tenderized ribs), I drove at snail's pace the last few blocks home.

All this is a lesson in the dangers of field work in color science. It's like the picture of Dorian Gray: I program the camera for high dynamic range to look at the stars, but my own vision still suffers due to a bright light in the near field. That field had a few bovine visitors, hardly at the limits of human perception. Go figure.

Thor Olson



Example 2 of the Orion Nebula in CIC-15 paper (2007, Albuquerque, NM) describing HDR methods for astrophotos, including background processing. This was built from exposures ranging from 30sec to 300sec. Canon EOS20Da at ISO1600 on Televue-85 (f/5.6).

See www.nightscaapes.net/Notes/HDR/index.HDR.html for additional Thor photos.

ASTM E12 Meeting Report

ASTM E12 on Color and Appearance met in January 2008 in Fort Lauderdale Florida. Richard Harold is the current chairman. In administrative news, Harold announced the name change of subcommittee E12.12 from Metallic & Pearlescent Colors to Gonioapparent Color. This name change effective broadens its application beyond just metallic and pearlescent pigmented materials. The publications subcommittee noted that the Eighth Edition of the Compilation, "ASTM International Standards on COLOR and APPEARANCE MEASUREMENT," will occur before the next E12 meeting in June, 2008. This compilation collects in one volume all the current ASTM standards on color and appearance from various ASTM committees, such as E12, D1 on Paints, D20 on Plastics, D13 on Textiles, etc.

On the technical side, the committee noted the successful balloting of revisions of many existing standards and also the development of several new standards in 2007. The new standards include

E2480—Standard Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method with Multi-Valued Measurands, E2501—Standard Specification for Light Source Products for Inspection of Fluorescent Coatings and ASTM E2545—Standard Test Method for Objective Measurement of Gingival Color Using Digital Still Cameras. A listing of all standards and their most recent approval date is available at www.astm.org.

Two special events are planned for the next ASTM E12 meeting June 17-19 in West Conshohocken, Pennsylvania. First, the Hunter Award, intended to honor and recognize those individuals who exemplify the personal and professional characteristics of leadership displayed by Mr. Richard Hunter, will be presented. Second, there will be a special workshop about Standards for Fluorescent Coatings to Improve Shipboard Tank Preservation.

Compiled by Mary McKnight using information from Ellen Carter and Richard Harold

Members' News

Send Contributions to Cynthia Sturke (isccoffice@cs.com)

CIC16 Call for Papers

The Call for Papers for IS&T/SID 16th Color Imaging Conference (CIC16) is available for download and viewing at www.imaging.org/conferences/cic16. The conference will be held in Portland, Oregon from November 10–15, 2008. The deadline for abstract submission is April 13, 2008.

Since its creation 15 years ago, CIC has been a showcase of the latest advances in color imaging science and engineering and has served as the principal international forum for color scientists, technologists, and students. Technical papers are invited, but not limited to the following areas: color theory, color in displays, novel printing technologies, and systems and workflows. A full listing is found in the call for papers.

This year CIC16 will feature several special events. They include ICC DevCon '08 on Monday, November 10 which will offer a one-day conference on using and/or implementing ICC v4 color standards; the "Hunt Symposium: A Program Honoring Robert W. G. Hunt," on Friday, November 14 and on Saturday, November 15 Colour Group (GB) announces the Newton Medal Lecture. It will be given by Prof. Roy S. Berns, Rochester Institute of Technology, New York an ISCC/IS&T 2008 special topics meeting on the measurement of black and white. More information on these special events can be found on the web site.

Fairchild Awarded Davies Medal

Mark Fairchild received the Davies Medal at the Royal Photographic Society's Awards Ceremony in London, October 2007. He was presented with the award for his significant contributions in the digital field of imaging science by Professor Ralph Jacobson.

Berns to Receive Newton Medal

Colour Group (GB) has announced that Prof. Roy S. Berns, Rochester Institute of Technology, will present the Newton Medal Lecture and receive the Newton Medal Award during its meeting March 5, 2008 at City University, London. The title of the lecture is "The Use of Color Science in Art Conservation."

Pantone Selects Color of the Year for 2008

In a December 2007 press release, Pantone, Inc., an ISCC sustaining member, announced their selection of PANTONE 18-3943 Blue Iris, a beautifully balanced blue-purple, as the color of the year for 2008. Combining the stable and calming aspects of blue with the mystical and spiritual qualities of purple, Blue Iris satisfies the need for reassurance in a complex world, while adding a hint of mystery and excitement. In other words, Pantone, Inc. described it as a multifaceted hue reflecting the complexity of the world that surrounds us.

Explains Leatrice Eiseman, executive director of the Pantone Color Institute®, "as a reflection of the times, Blue Iris brings together the dependable aspect of blue, underscored by a strong, soul-searching purple cast. Emotionally, it is anchoring and meditative with a touch of magic. Look for it artfully combined with deeper plums, red-browns, yellow-greens, grapes and grays."



Please see www.pantone.com/pages/pantone/pantone.aspx?pg=20540&ca=10 for additional information.

Avian Technologies Now in New Hampshire

Avian Technologies has moved to New London, New Hampshire. The new phone and fax numbers are 603-526-2420 and 603-526-2729, respectively. The mailing address is Avian Technologies LLC, P.O. Box 716, Sunapee, NH 03782-0716. The email and website addresses remain the same, info@avianttechnologies.com and www.avianttechnologies.com respectively.

Members' News, Continued

NPCA and FSCT Sign Agreement to Merge

On February 5, the National Paint & Coatings Association (NPCA) and the Federation of Societies for Coatings Technology (FSCT) announced that they have signed a Memorandum of Agreement, which outlines the details of a prospective merger of the two organizations. The agreement describes a "governance merger" that will consolidate the governance, management, and administrative functions of both groups under NPCA, while preserving each organization's separate identities, operations, functions, and member services. NPCA and FSCT will remain as separate organizations managed through a common governing structure.

As part of the merger, FSCT and NPCA have agreed to combine the International Coatings Expo (ICE) with the American Coatings Show and Conference (ACS); cancel ICE2008 and endorse and support the FSCT's international technology conference, FutureCoat!, which will continue as the signature science and technology event for the industry.

For the complete announcement on the merger, please see www.coatingstech.org.

Margaret Walch Resigned as Executive Director of CAUS

CAUS announced that Margaret Walch, a long-time ISCC Member, stepped down as Executive Director. Margaret has long been our liaison for CAUS as well as participating on the Godlove Committee.

Leslie Harrington, another long-time ISCC Member has been introduced as the new Executive Director. Leslie is a member of the American Society of Interior Designers and author of two books on color.

The ISCC wishes both success in their future endeavors.

X-Rite Announces Seminars

X-Rite Color Services has announced the 2008 release of its newly updated Fundamentals of Color and Appearance seminar. The one-day seminar is intended for anyone who evaluates or approves color. From the physics of color to lighting, spectrophotometers and color data, attendees learn how to measure, view and understand color data.

The seminar will be taught in 13 different cities across the United States throughout 2008. Please see www.textileweb.com/ for specific information on attending the course.

Nickerson Service Award Nominations Requested

The Inter-Society Color Council's Nickerson Service Award was established in 1980 to recognize outstanding long-term contributions toward the advancement of the Council and its aims and purposes. The contributions may be in the form of organizational, clerical, technical, or other services that benefit the Council and its members. Candidates for the award must be members of the Council and must have been active in the affairs of the Council. Recent past recipients include Ralph Stanziola – 2004, Gultekin Celikiz – 2005, Mary McKnight – 2006 and Dave Wyble – 2007.

You are invited nominate a person for the 2008 Nickerson Service Award. Please contact the chair of the Nickerson Service Award Committee, Ellen Carter, 21 Castle Drive, Pennsville, NJ 08070 or by email at Ellen.Carter@alum.rpi.edu. Nominations must be received before April 1, 2008.



ISCC/IS&T 2008 Special Topics Meeting, “Black and White” Saturday, November 15th

Choosing “Black and White” as the special topic for the meeting recognizes them as two of the most important properties of any colored image or object. Recently there has been renewed interest in these concepts, witness the IDEAlliance (International Digital Enterprise Alliance) Print Properties subcommittee on paper characterization, the SIS Workshop on Paper on optical properties of paper, CIE Publication 163 on the Effect of Fluorescence in the Characterization of Imaging Media, and papers at the Color Imaging Conference.

Key topics at the meeting will include the measurement of white papers, three-color overprints versus true black, the impact of novel light sources on the rendition of colored images, very black materials, and strategies for assessing black and white objects.

The meeting is scheduled for Saturday, November 15, following the Color Imaging Conference 16 in Portland, Oregon. Please submit abstracts to Ann Laidlaw at ALaidlaw@XRite.com.

New ISCC Home Page Under Development

Not content to rest on his laurels, Dave Wyble, who won the Nickerson Service Award last year as the ISCC webmaster, has redesigned the home page for the ISCC web site. The new home page is shown below. It adapts the graphic design created by Jonathan Dorsey of Xerox for the ISCC/CIE Expert Symposium in

Inter-Society Color Council

What's New Goes Here

- Annual Meeting >
- Conferences >
- Membership >
- Organization >
- Functions >
- Online Resources >

ISCC Members Bodies

The ISCC is the principal professional society in the field of color in the United States, encompassing the arts, sciences and industry, pursuant to the Aims and Purposes described [here](#). Other national organizations with an interest in color are [Member-Bodies](#) of the Council and appoint delegations to participate in the Council's work. Individual members are the largest single group.

The history of the Council dates to its founding in 1931, with the goal of advancing the knowledge of color as it relates to art, science, and industry. Each of these fields enriches the others, furthering the general objective of color education.

Please explore the site to learn more about the ISCC, its people and members, and what you could gain by becoming a member. For a concise summary of the activities and organization of the Council, a two page brochure is [available](#).

The ISCC website is supported by [several organizations](#). We are grateful for the time and resources spent to keep the web information current and useful.

Thank you!

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2006. It also uses the updated logo, unveiled in the last newsletter. In addition to the new graphics, the web page provides links to other parts of the site, rotating logos of the ISCC member bodies, and a “What’s New” link. The new home page will appear in the next few weeks, with changes to the rest of the web site rolling out after that in March. If you have any comments or suggestions, contact Dave at wyble@cis.rit.edu.

Color Research and Application In This Issue, February 2008

Ralph A. Stanziola, who served as *Color Research and Application's* Special Editor for Industrial Applications for ten years, died in August of 2007. We begin this issue by paying tribute to him. I am not alone in saying I looked up to Ralph as a mentor and colleague, and I shall miss him greatly.

Moving on to our articles, Rolf Kuehni leads off with the first article in a series on "Forgotten pioneers of color order." The pioneer highlighted in this article, Gaspard Grégoire, who lived from 1751 to 1846, developed a color order system using hue, chroma, and lightness.

In our next article Farnaz Agahian and Seyed Hossein Amirshahi introduce a new approach to color matching based on principal component analysis. Traditional algorithms match spectral values or colorimetric values. This new method matches "the most variation" of a given spectrum by equalizing the first three coordinates of the principal components. It is described in "A New Matching Strategy: Trial the Principal Component Coordinates." Using this approach, the formulation results in a lower degree of metamerism directly.

Our next three articles are on perception and color appearance. First, Yoshinobu Nayatani and Hideaki Sakai discuss the "Relationship between Zero-Grayness Luminance and Perceived Brightness of Spectrum Colors." In the 1960s Ralph Evans wrote two articles on the chromatic strength of colors and proposed the concept of grayness of light, which is described in his book *Introduction to Color*. In their article, Drs. Nayatani and Sakai not only examine the relationship between zero-grayness and perceived brightness, as the title suggests, but also point out some important contradictions that require further research.

Next "Using Symmetry to Understand the Attributes of Color," Louis Adams discusses the symmetries of the common color attributes of hue, saturation, chroma, chromaticness, whiteness, and blackness. According to Adams, symmetries provide a simplified framework for calculating groups of colors that share color attributes. He then goes on to examine color models including the Hunt Model, a simple color model, various CIE color spaces, and the IPT space which is part of iCAM. A general

functional form describes symmetries and scaling laws for many of the color models, and exceptions are discussed in this article.

Thirdly, Gábor Kutas and Peter Bodrogi discuss the "Colour appearance of a large homogenous visual field." In this article, they describe an experiment in which large (85°) colored field are compared to small patches of color (2° and 10°). They go on to model the effects that they find, and compare their results to those of other researchers. Adaptation and how it is handled is an important parameter in this research, especially when some of the stimuli are a significant portion of one's visual field.

Our last three articles relate to architecture in one way or another. From perceived appearance, we move to the application of appearance in color selection. In "Aesthetic Decision-making" Lucila R. Geymonat de Destefani and T. W. Allan Whitfield examined the process by which a choice of color is made. In their study the choice being investigated was selection of color paint for a room. Although the process is not the same for all people, they found that it consists of two essential stages. The first stage involves deciding what qualities are sought. Once this is decided, the second stage of matching color attributes to that specification is undertaken. This process has much in common with parallels in the decision research field of *naturalistic decision making*.

Our next article described a new approach for taking areal measurement of soiling on historic walls and buildings. In "Grayscale Calibration of Outdoor Photographic Surveys," M. J. Thornbush describes how, using a grayscale as a constant in photographic surveys, measurements on flat outdoor surfaces to track changes in the lightness and chroma of buildings were made, thus making it possible to follow the amount of soiling occurring on the façade. The simple grayscale calibration improves the comparability of surveys to spectrophotometric measurements.

Our last full-length article discusses urban color, a "hot" topic in China currently. In 2000, the Beijing Municipal Peoples Government issued a regulation that in order to create a steady-going, broad and simple but elegant urban environment, the color of building façades in Beijing should assume a compound color based on gray. This touched off much discussion. Thus Aiping Gou and Jiangbo Wang decided to research what has been done about color in

urban planning in Eastern China. They report the results in “Research on the Location Characters of Urban Color Plan in China.” The authors conclude among other things that under present Chinese urban plan system, the urban color plan is the result of the game between urban planners and architects which come out from the rapid boom of urban construction and economy development.

In a Note in the Communications and Comments section, Ralph Pridmore asks, “Chromatic induction: opponent color or complementary color process? Mr. Pridmore points out that currently chromatic induction is considered to be an opponent process, but 50 years ago it was accepted as a complementary color process. While that was never disputed, it was apparently overlooked. I encourage readers to take another look, by reading Pridmore’s note.

Also in our Communications and Comments section the discussion on camera color gamut continues. Robert W. G. Hunt and Michael R. Pointer suggest “Camera Colour Analysis Gamut.” “Try

Camera Gamut again: not for size, but for camera+profile evaluation.” replies Michael H. Brill, who started this discussion last year in Issue #3.

Finally in this issue, we have two book reviews, a meeting report, and some news from RIT. Sandra Austin reviews the book, *Color Influencing Form* by Roy Osborne. Françoise Viénot tells us about *Dictionnaire des termes de la COULEUR* written by our own Associate Editor from France, Robert Sève, Michel Indergand, and Philippe Lanthony. Slava Jeler and Dunja Legat report on the 7th International Symposium of Slovenian Colorists Association. The topic Color of National Symbols, focused on the reproduction of national symbols on different materials, the definition and quality control of the color. Lastly, Rochester Institute of Technology invites applicants for its masters and doctoral programs in Color Science and also for their industrial short-courses in color.

Ellen Carter
Editor, *Color Research and Application*

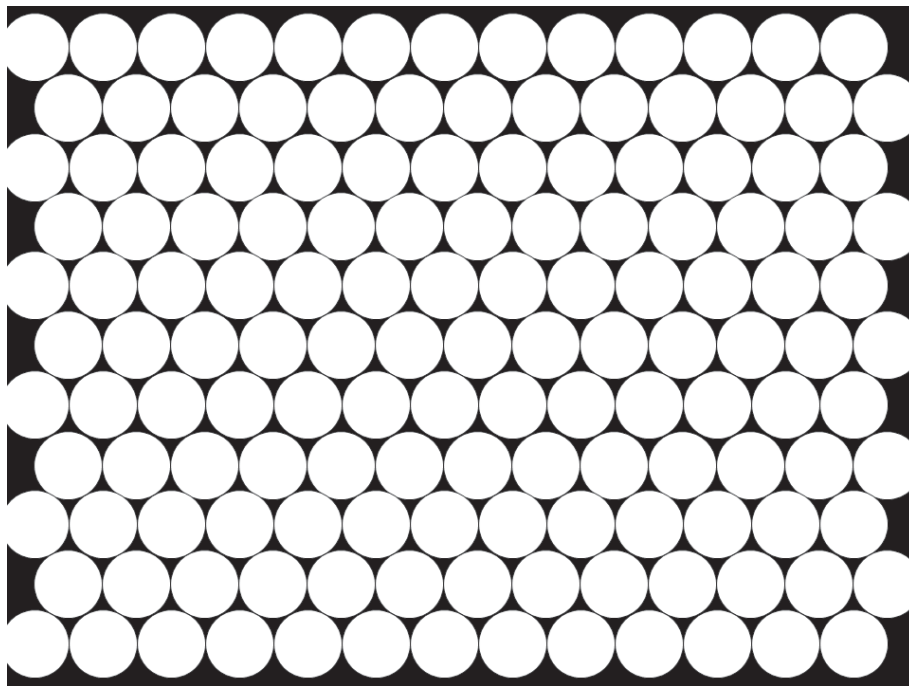
HUE ANGLES BONUS: Through a Pinhole Colorfully

Here’s an illusion published by B. F. Skinner [1]. Just stare through a pinhole at a tangent point (where two circles meet) in the pattern below, and the circles will take on various pastel colors. Viewing distance should be about 18 inches. No preconditioning by a “Skinner box” is required. By the way, I can see colors without using a pinhole.

What colors do you see? Can you find a presentation that accentuates the colors? Any explanation for the effect? Please post your thoughts on the ISCC web site (www.iscc.org).

[1] B. F. Skinner, A paradoxical color effect. *Journal of General Psychology*, 1932, 7, 481-82.

Michael H. Brill,
Datacolor



CALENDAR

Please send any information on Member-Body and other organization meetings involving color and appearance functions to:

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2008

- Mar 16-10** **Biomedical Optics (BIOMED)**, Collocated with: Digital Holography and Three-Dimensional Imaging (DH) and Laser Applications to Chemical, Security and Environmental Analysis (LACSEA), Hilton St. Petersburg Bayfront, St. Petersburg, Florida, USA, 202-416-1907, www.osa.org/meetings/topicalmeetings/biomed/
- Mar 16-19** **TAGA 2008**, Technical Association of Graphic Arts, Sheraton Fisherman's Wharf Hotel, San Francisco, California, www.gain.net/eweb/
- Apr 27-May 2** **2008 ASPRS Annual Conference**, The Imaging and Geospatial Information Society, Oregon Convention Center, Doubletree Hotel Lloyd Center, Portland, Oregon, 301-493-0290, www.asprs.org/
- May 4-6** **SPE ANTEC 2008**, Society of Plastic Engineers, Color and Appearance Division, Milwaukee, WI, www.4spe.org/conf/antec08/
- May 12-15** **CPMA's 2008 International Color Pigments Conference**, Lincolnshire Marriott Resort, Lincolnshire, IL, www.pigments.org/
- May 18-23** **SID 2008**, Los Angeles, CA, www.sid.org/conf/sid2008/sid2008.html
- Jun 9-Jun 13** **CGIV 2008: IS&T's Fourth European Conference on Color in Graphics, Imaging and Vision**, Terassa, Spain, 703-642-9090, www.imaging.org/conferences/
- Jun 10-13** **CGIV 2008: IS&T's Fourth European Conference on Color in Graphics, Imaging and Vision** Terassa, Spain, 703-642-9090, www.imaging.org/conferences
- Jun 14-15** **CIE Division 1**, Scandinavian Colour Institute AB, Igeldammgaten 30, Kungsholmen, Stockholm, Sweden, www.bio.im.hiroshima-cu.ac.jp/~cie1/
- Jun 15-18** **AIC Interim Meeting, Colour – Effects and Affect**, in Stockholm, Sweden, Swedish Colour Centre Foundation, Contact: Berit Bergström, berit.bergstrom@ncscolour.com, www.aic2008.org
- Jun 17-19** **ASTM E12 Color and Appearance Meeting**, ASTM International Headquarters in West Conshohocken, PA, www.astm.org
- Jun 24-27** **Archiving 2008**, Society for Imaging Science and Technology, Bern, Switzerland, 703-642-9090, www.imaging.org/conferences/
- Jul 7-11** **Division 2, CIE Symposium (Advances in Photometry and Colorimetry) and Division 2 Meetings**, INRIM, Torino, Italy, cie2.nist.gov/
- Sep 14-15** **Inter-Society Color Council (ISCC) 2008 Annual Meeting**, Baltimore, Maryland, 703-318-0263, www.iscc.org
- Sep 16** **ISCC Special Topics Symposium "Perception and Measurement of Safety Colors,"** Baltimore, Maryland, 703-318-0263, www.iscc.org

2008, Cont

- Oct 15-17** **International Coatings Expo, ICE 2008**, Federation of Societies for Coatings Technology, Lakeside Center, McCormick Place, Chicago, IL, 610-940-0777, www.coatingstech.org/Programs/index.cfm?event=ICEAttendeeInfo
- Nov 10-14** **Sixteenth Color Imaging Conference**, Society for Imaging Science and Technology, and Society for Information Display, The Benson Hotel, Portland, Oregon, www.imaging.org
- Nov 15** **ISCC/IS&T Special Topics Meeting**, Inter-Society Color Council and Society for Imaging Science and Technology, The Benson Hotel, Portland, Oregon, 703-318-0263, isccoffice@cs.com

2009

- Sept 27-Oct 2** **AIC 11th Congress**, Sydney, Australia, Organizer: Colour Society of Australia, Contact: Nick Harkness, www.aic2009.org
- Jun 23-25** **ASTM E12, Color and Appearance**, American Society for Testing and Materials, National Institute of Standards and Technology, Gaithersburg, MD, www.astm.org

Publications Available from ISCC Office

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All submissions must be in English. Please submit materials by the 15th of each even numbered month. Materials submitted later may be printed in the following issue.

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