



Inter-Society Color Council *News*

Issue 423 Contents

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President's Column

The ISCC is coming off a great set of meetings this past May in Ottawa, celebrating the twin 75th Anniversaries of the Council and the CIE Standard Colorimetric Observer. For those of you who weren't able to be there—and even for those who were—the last newsletter had two very good reports on the meetings: one from Steve Glasscock on the Annual Meeting and one from Ellen Carter on the ISCC/CIE Symposium. Our website has a picture of the attendees, gathered on the front steps of the National Research Council Building on 100 Sussex Drive in Ottawa, taken during the afternoon break on the first day of the Symposium. Obviously, this is a place to consider returning to on our 100th Anniversary.

To me, meetings like the ones we had in Ottawa are one of the things the Council is so well positioned to do—bring together specialists from diverse areas to share interests across boundaries between their specialties. In the case of the ISCC/CIE Symposium, the meeting brought together psychophysicists, physiologists, chemists, physicists, engineers, vision scientists and color scientists. They came together around a single theme—the CIE Standard Colorimetric Observer—which infuses so much of what we do in color. In the future, there will be themes whose scope can cast a wider or narrower net to bring together people to talk about other aspects of color.

Let me tell you some about the upcoming meetings that the Council is involved in. The one I have been asked about most is next year's Annual Meeting. It will be in Kansas City next April. More on that later.

In November, there is the annual IS&T/SID Color Imaging Conference (CIC) in Scottsdale; the Council is a cooperating Society. We have worked with the IS&T several times over the years, most recently co-sponsoring a Special Topics meeting with the IS&T last year after the 2005 Color Imaging Conference. This year's conference, the 14th, is the last in

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Scottsdale. After a survey of last year's attendees, the organizers decided to start moving the conference around and look for other sites besides Scottsdale. As a result, next year's conference will be in Albuquerque. In the meantime, this newsletter has a pointer to this year's preliminary program. (We are also a co-operating society for the IS&T Archiving Conference, May 21-24 in Arlington, Virginia.)

In February, the Council is co-sponsoring the Industrial Color Challenges Symposium with the American Association of Textile Chemists and Colorists (AATCC), February 22-23 at the Hilton University Place in Charlotte, North Carolina. The program for this Special Topics meeting will cover marketing, measurement, legislation and visual assessment—the full range of topics that need to be addressed in the industrial application of color. Come to the conference to hear about anomalies in color formulation, color difference metrics, digital color communication and more. The Second Call for Papers is further on in this newsletter.

In April, we are planning to hold the 2007 Annual Meeting in Kansas City. The dates are April 29-30. We are still negotiating with hotels but expect to have one selected in the next few days or week or so. Since we have two Board members—Steve Glasscock and Scot Fernandez—with Hallmark Cards, Kansas City seemed the obvious and an appropriate place to hold the meeting. I checked with Ellen Carter and Cynthia Sturke and verified that this will be the furthest west the ISCC has ever held an Annual Meeting in the US. We did hold the 1999 Annual Meeting in Vancouver, but since that is in Canada, the distinction of Kansas City as the westernmost US site holds.

The theme for the 2007 Annual Meeting will be “Bridging the Creative and Production Sides of Color.” In my mind, this is sort of thing you would expect the ISCC to do—promoting communication between technically oriented specialists in color and creative workers in art and design, which is an aim of the Council. Although we won't have a co-sponsor for this meeting, we are looking forward to Hallmark Cards being a “partner,” and Steve and Scot will chair the meeting. Working with representatives from Hallmark Cards will continue the rich tradition of the ISCC

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Paint and Color Technology: Saving the Surface

Referring to human relations, my father advised me always to “save the surface,” which is something like “don’t burn your bridges” only more subtle. The connection between the homilies becomes literal in the paint industry: You must save the surface of an iron bridge to avoid burning (corroding) its basic structure. Color is a distinctly secondary objective to structural preservation in the painting of such things as bridges, water towers, and battleships. But sometimes the means to the objectives agree. For example, in the case of the Golden Gate Bridge, the red primer retarded rust, was visible to aircraft through fog, and was much more aesthetically pleasing than the U.S. Navy’s alternative coloration of yellow and black stripes. So red was the chosen color.

Sometimes color technology—which is based on the interaction of lights, pigments, and human vision—also helps in the quality control of a paint job: Additives to the paint can accentuate the visibility of flaws and predict future corrosion sites.

This approach helped solve a problem faced by the Navy. Aboard ocean-going ships, tanks that hold drinking water or ballast are quite vulnerable to slow breaches caused by corrosion that starts where paint covers the inside of the tank imperfectly. Under ultraviolet (UV) light, fluorescent paint makes defects visible at 4-5 times as far away as would be visible with a flashlight. That is because fluorescent materials transform incident UV energy to visible light, so you can see painting flaws in an otherwise dark room.

At first, UV light was not available in a cheap, portable way: Paint-job quality control on a naval ship had to be done by clambering around in very tight spaces with heavy, expensive, and delicate UV sources. But recently, light-emitting-diode (LED) technology allowed near-UV radiation at 365 nm to be emitted by a \$50 source the size of a flashlight.

Now, Paul D. Gossen, of the National Surface Treatment Center (Louisville, KY), is promoting a new way to enhance visibility of paint flaws: Add a special fluorescent material to the paint and then use an LED flashlight that emits light at 405-nm (visible and hence safer for eyes than UV). The light itself is deep violet, hence not very bright, but causes the applied paint to

fluoresce so brightly that subtle material defects glow visibly even in a brightly lit conference room. That feature is important because in many industrial environments it is unsafe or impractical to turn out the room lights before looking for paint flaws. Gossen approached the American Society for Testing and Materials (ASTM) with a proposed standard for the light. That proposal has been approved and the new standard is designated E2501-06. Now Gossen seeks to standardize the properties of the fluorescent material in the paint. Once paint manufacturers buy into the standard, we may see fluorescent paint-additives used for bridges, water towers, and other things that are too large to be made under the careful auspices of a factory.

Soon, when you turn on your faucet, the reliability of the result may depend on fluorescent paint-additives that, under watchful eye, have “saved the surface” of your town’s water tank. And color technology will have reached you in a vital—not just aesthetic—way.

Michael H. Brill, Datacolor

President’s Column

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working with other organizations, public and private, in hosting meetings on significant topics in the field of color.

We are also planning to have the Fall Board meeting next month in Kansas City. As has been our tradition, the Board meeting will be held on a Saturday. Most people fly in late the day before but early enough to get together for dinner. For those who can come in earlier, I am planning a strategic planning meeting on Friday afternoon. The idea is to work with the Board members at this meeting to identify our strengths (and build on them) and also our weaknesses (looking to address and minimize them). We will also look for opportunities to grow in areas that will further the aims of ISCC.

While it will be Board members at this first strategic planning meeting, I invite all members of the Council to contribute their ideas on our strengths, weaknesses, opportunities and future directions. Feel free to contact one of the Board members, or you can email me directly at rbuckley@xerox.com. In future columns, I will report on the progress we are making.

Rob Buckley, Xerox Corporation

The 26th Session of the CIE: Call for Papers

The 26th Session of the CIE will be held in Beijing, China, July 4-11, 2007. Prospective contributors are invited to submit papers dealing with new results in the field of light and lighting. The subjects of the papers should be relevant to the work and the terms of reference of the seven CIE Divisions and their Technical Committees. (For detailed information on domains of interest, the CIE website, www.cie.co.at/cie, should be consulted.) Papers dealing with questions of direct concern to the work of the Divisions will get priority.

Contributions can be submitted electronically or in paper form. For details on how to submit an abstract, see the web site. The extended abstract should be submitted in English with a minimum of 500 and a maximum of 1000 words. It should be sufficiently specific and informative and make clear the novelty the author wishes to describe, referring to results and practical applications.

The submissions must arrive at the Central Bureau by September 15, 2006. Authors will be informed on the decision of the Board of Administration by November 15, 2006.

The authors selected (or one of their co-authors) must register for the conference to present their paper. After the acceptance of their papers authors will be provided with information indicating format and deadlines of the written contributions for inclusion in the Proceedings.

ISCC 2006 Directory

The long awaited ISCC Membership Directory is due to be distributed in October.

If you haven't paid your ISCC 2006 dues, please do so now so that you will be included in the directory. If you have any updates to your contact information, please contact Cynthia at the ISCC Office by September 30th. Please note that due to rising paper costs, the directory will be emailed to current paid members, so make sure your email address is up-to-date. If you do not have an email address, arrangements can be made to have the directory mailed to you.

Matching and Control of Metallic and Pearl Colors, a DCC Course

The Detroit Colour Council (DCC) will offer a unique 2-day course, Matching and Control of Metallic and Pearl Colors, at the Livonia site of Eastern Michigan University, October 24-25, 2006.

The course objective is to provide technical fundamentals for matching and maintaining color control for metallic and "effect" colors, including automotive components and non-automotive applications. Proper visual evaluation of metallic/effect samples and parts will be emphasized including lighting issues, proper terminology for color difference, and determination of tolerances. These same materials will be evaluated by multiangle color measurement and resulting degree of correlation will be discussed. The latest in color measurement technology for these gonioapparent colors, including feedback from the revised SAE J1545 Recommended Practice will be included. Portable daylighting and multiangle spectrophotometer data will be used by student teams assigned to projects.

Extensive discussion is provided on pigments used to formulate these colors, including suitability for various products. Included are metallic pigments and effect pigments combined with applicable organic pigments. Process variables and limitations which impact on the application are discussed in depth.

Students are presumed to have some degree of experience or education in color technology, although we will review basic fundamentals.

This is a Detroit Colour Council course, not associated with the University.

Administrator of the course is Bill Longley, Color Match Consulting. Also instructing are specialists in essential aspects of metallic coloring, Bob Davis of General Motors, Mike Henry of PPG, Jim King, consultant, and Bob Santine of X-Rite.

For more information contact course administrator Bill Longley, 734-420-4920, email, wlongley@juno.com or DCC Education Chairman Jim Hall, 586-709-2606 at General Motors, email, james.1.hall@gm.com. The web site is www.detroitcc.org.

Color Imaging Conference, CIC14

The IS&T/SID Color Imaging Conference will be held in Scottsdale, Arizona, November 6–10. Raja Bala and Marc Mahy, General Chairs, provide a Preliminary Program, along with conference and hotel registration information on the web site at www.imaging.org/conferences/cic14.

The conference committee has put together a strong technical program, with papers presenting advances in high dynamic range imaging, spatio-chromatic reproduction, medical imaging, color image capture, and other stimulating topics. As always, the conference will feature a single-track oral presentation format, complemented by an interactive paper session where participants explore topics in-depth with authors. The meeting will conclude with a Late-Breaking News session featuring recent breakthroughs in color imaging.

This year keynote presentations will be given by three highly distinguished individuals. David Williams, Director of the Center for Visual Science at the University of Rochester, will speak on “Color and the Cone Mosaic.” Jeff Sampsel, Vice President of technology development at Qualcomm, will give the talk “Causes of Color, Especially Interference Colors.” Adrianus de Vaan of Philips Innovation Labs will tell us about “Competing Display Technologies for the Best Image Performance.”

In addition, IS&T is delighted to have as our evening speaker Barbara Berrie, senior conservation scientist at the National Gallery of Art in Washington, DC, who will discuss “The Alchemy of Artists: from Pigments to Paintings.” These speakers are all coming to CIC for the first time, thus lending a fresh and exciting dimension to the conference.

As in the past, the conference is inaugurated with an extensive tutorial program. Dr. Robert Hunt will give his popular two-day course on Basic Color Science and Imaging. This year a special one-day course on the Practical Application of Measurement Systems is also featured. In addition, a day-long program of tutorials is being given on a wide range of topics, several of which are being offered for the first time this year. Be sure to browse through the tutorial descriptions on the web site and check out the special new rates for students and attendees of multiple tutorials.

Also, contact Felecia Marsh (color@imaging.org) to inquire about being a Tutorial Monitor.

Because one of the most valuable aspects of being at the conference lies in the informal interactions amongst colleagues in the field, the agenda has been planned with ample time for networking. The new conference venue, the Chaparral Suites, promises to be highly conducive in this respect, with breakfast and Happy Hour offered as part of the lodging and conference attendance.

AIC 2007 Midterm Meeting: Call for Papers

The Color Association of China invites you submit abstracts to the AIC 2007 Midterm Meeting on “Color Science for Industry” to be held at Zhejiang University, Hangzhou, China on July 12-14, 2007. The conference will cover a wide range of the topics related to the application of color technology in manufacturing and product research: specifically, in relation to the technology, manufacturing, and quality of imaging, textile production, printing, paint manufacture, television production and technology. The meeting will bring together leading researchers from all over the world to exchange the latest information on the developments in the application of color science and technology.

The technical program will include invited papers as well as contributed papers and poster presentations. Conference contributions will be published in a conference proceedings. You are invited to submit a detailed abstracts for an oral or poster presentation at the conference. Abstracts should be submitted via the online website, www.aic07.com, or by e-mail and are limited to two A4-sized pages.

The conference topics are

- Color and communication
- Color in imaging technology
- Color in textiles
- Color in printing
- Color in paint
- Color in displays (broadcast and computer)
- Color measurement and instrumentation
- Other topics

See the web site for more information, www.aic07.com/.

An Invitation to Nominate: Nickerson Service Award



Service Award

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 Ellen C. Carter -2003, Ralph Stanziola – 2004, Gultekin Celikiz – 2005 and Mary McKnight - 2006.

You are invited to nominate a person for the 2007 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 December 31, 2006.

IS&T Announces the Call for Papers for Archiving 2007

Archiving 2007, a conference sponsored by The Society for Imaging Science and Technology in cooperation with eleven other groups, of which the ISCC is one, will be held May 21-24, 2007 in Arlington, VA. The deadline for abstract submission is November 1, 2006.

The IS&T Archiving Conference brings together a unique community of imaging novices and experts from libraries, archives, records management, and information technology institutions to discuss and explore the expanding field of digital archiving and preservation. Attendees from across the world represent industry, academia, governments, and cultural heritage institutions. The conference presents the latest research results on archiving, provides a forum to explore new strategies and policies, and reports on successful projects that can serve as benchmarks in the field. Prospective authors are invited to submit oral and interactive presentations. Proposed program topics include:

Archiving and Technology

- File formats
- Standards (formats, color space, compression)
- Containers and packaging (e.g. METS, XFDU)
- Digitization workflows and techniques (scanning, OCR, image workflows)
- Storage technology and strategies
- Automated metadata extraction/harvest

Creating and Managing Digital Collections

- Selecting content, creating collections
- Categories of content type (e-mail, images, audio, video, data)
- Creating digital repositories
- Content and digital asset management
- Metadata for access
- Rights management and intellectual property issues
- Auditing and certification of trusted repositories
- Access, search, retrieval
- Indexing, taxonomies, text searching

Digital Preservation

- Preservation methodologies (research into solutions)
- Metadata for preservation
- Preservation planning (risk assessment, disaster planning, preservation process assessment)
- Preservation workflows

Additional information on the conference including author requirements can be found at www.imaging.org/conferences/archiving2007/index.cfm.

Second Call for Papers AATCC/ISCC “Industrial Color Challenges” Symposium

The American Association of Textile Chemists and Colorists (AATCC) and the Inter-Society Color Council (ISCC) and will sponsor a symposium on “Industrial Color Challenges.” The program will be held on February 22-23, 2007 at the Hilton University Place in Charlotte, North Carolina.

Papers are being solicited in the following categories:

- color and marketing,
- multiangle color measurement,
- colorant legislation and safety,
- conditions for proper visual analysis, and
- benefits of quantitative color assessment.

The two-day conference will consist of 30-minute presentations and panel discussions. Presentations will cover all facets of industrial color technology. The program will include talks on "Color Formulation Anomalies" by Sy Commanday, "Color Difference Metrics" by David Hinks and "Digital Color Communication" by "Ann Laidlaw.

Two lunches, morning and afternoon breaks and a Thursday evening reception are included in the registration fee. During the reception there will be tabletop displays and color and technology suppliers will be present to share the latest information about their products and services. The registration fee is \$475 for ISCC and AATCC members and \$710 for nonmembers. The registration fee will be waived for speakers. The registration fee is \$475 for AATCC and ISCC members and \$710 for nonmembers.

The deadline for receipt of abstracts has been extended until **October 1, 2006**. Papers are due January 19, 2007. See www.aatcc.org/workshops/2007symposium_call_for_papers.pdf for an abstract form. Complete and return this form to Kim Nicholson, AATCC Technical Center, P.O. Box 12215, Research Triangle Park, NC 27709-2215; fax 919-549-8933; or e-mailed to nicholk@aatcc.org.

ISCC 2007 Annual Meeting Bridging the Creative and Production Sides of Color Call For Interest-Group Papers

The ISCC 2007 Annual Meeting,
Kansas City, MO, 29-30 April 2007

Let's go where no ISCC meeting has gone before! **January 31** is the deadline to submit one-page abstracts and brief author bios to one of the three Interest-Group chairs:

- I. Basic and Applied Research: Jim Roberts, jim.roberts@altanachemie.com
- II. Industrial Applications of Color: Jerry Dimas, jerdim@ccicolor.com
- III. Art, Design, & Psychology: Marcia Cohen, marcia.cohen@woodruffcenter.org and Sandra Austin, ksajr@cox.net

For further information about the meeting, contact either of the Chairs, Steve Glasscock at sglass1@hallmark.com or Scot Fernandez at sferna2@hallmark.com.

Color Research and Application

In This Issue, October 2006

We open this issue by jumping right into the intricacies of colorimetric calculations from measured data. Stearns and Stearns described the classical method for correcting data for bandpass. However, this method was limited to the condition where the bandwidth and the data interval were matched and the passband was a symmetrical triangular function. While these conditions were common in the instrumentation at the time of their work, they are no longer the norm. Ohno developed a numerical approach that was not limited by these restrictions. In our first article "Bandwidth Correction for LED Chromaticity," James L. Gardner extends the correction method with a more general analytical solution. Dr. Gardner then shows the application of the new method to LED spectra measured with a compact, fiber-coupled spectrophotometer, and describes the fitting of the relatively broad slit function to line spectra for accurate wavelength calibration.

Once we have the measurement issues clearly developed, we can move into collection of spectral measurements of object reflectance spectra, the topic of our next article. Spectral representations and analyses of colors are not only used for industrial color measurements, but also for analysis of color images. Over recent years several databases of reflectance color spectra of natural and man-made objects have been amassed. Also there have been databases of sets of standard colors. Jussi Parkkinen, Timo Jääskeläinen published such databases around 1990. These two authors join with Oili Kohonen to write our next article in this issue. In "Databases for Spectral Color Science," they compared color spectra databases and analyzed their usability in spectral color science.

Next let us look at color constancy. We have repeatedly commented that the color of an object depends on the light illuminating the object, the object's spectral reflectance and the observer. When the source illuminating the object changes, the light reflected from the object to the observer also changes. However, the perceived color does not necessarily change. This is because the perceived color of the object also depends on the state of adaptation of the observer and distribution of color within her visual field. Those

working on machine vision, seek ways to emulate the human observer's ability to see objects with their colors remaining constant. In "Sensors for a Color-Image Descriptor Invariant to Changes in Daylight," Javier Romero, Javier Hernández-Andrés, Juan Luis Nieves, and Eva M. Valero report on the study of two aspects of the definition of the invariant. First, they examine the possibility of applying the invariant to images of scenes taken in daylight with different color temperatures, and second they address the choice of optimum sensors. Then they use the sensors of a commercial CCD camera and compare the results to those obtained with the Gaussian sensors and those derived from the application of spectral-sharpening techniques.

Our next article remains on the topic of digital cameras. Another group of authors from Spain, Francisco Martínez-Verdú, M. J. Luque, P. Capilla, and J. Pujol present a report "Concerning the Calculation of the Color Gamut in a Digital Camera." How many colors can a human observer perceive? How many colors can a digital camera record? This question is usually confounded with the related question of how many colors can the output device (either printer, display or something else) produce. This report discusses the "camera alone" gamut. Then the numbers of discernible colors by the digital camera and by the human eye are estimated and compared.

Going back to the human observer of color, we need to consider not only what the observer sees, but also his emotional response that the color has evoked. Xiao-Ping Gao and John H. Xin build a color emotion map in the CIE lightness-chroma-hue color space. They found a region of neutral feelings surround the point $C^* = 30.5$ and $L^* = 53.3$. As colors scattered in opposite direction from this neutral region opposite color emotions were evoked. In "Human's Emotional Responses to Colors" these relationships were described by two orthogonal factors: activity index and potency index, and one correlative factor (definition index).

Next we follow up on a series of articles on the theoretical analysis of subtractive color mixture characteristics. In this issue we have "Part V. Centroid of Subtractive Tristimulus Values" by Nobuhito Matsushiro and Noboru Ohta. In a subtractive color mixture, the resultant tristimulus values are not uniquely determined

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from the component tristimulus values. Therefore it is important to examine the possible range. In the earlier articles Drs. Matsushiro and Ohta discussed the minimum and maximum bounds. Now this article focuses on the centroid.

Our final article is from an unusual area, the Department of Forestry at Michigan State University. Pascal Nzokou and D. Pascal Kamden discuss "The Influence of Wood Extractives on the Photo-discoloration of Wood Surfaces." In this application the authors use spectrophotometric measurements and ISO 2470 on Diffuse Brightness to evaluate the effects of weathering and the discoloration process of hardwoods and soft woods.

Also in this issue we need to bring a couple of errata to your attention. One took quite a long time to discover. M. Ronnier Luo reports on a correction to the 1991 article "Quantifying colour appearance. Part II. Testing colour appearance models performance using LUTCHI colour appearance data." The more recent article "The Shifting Gamma Perception" by Besuijen [30:332-340, 2005] has more extensive corrections.

In keeping up with the literature, we have two book reviews and several publications briefly mentioned. Barbara Martinson reviews *Colors of the World: A Geography of Color* by Jean-Philippe Lenclos and Dominique Lenclos. Then Alan Kravetz reviews *A Field Guide to Digital Color* by Maureen Stone. The Society of Light and Lighting has published a 4-CD set of the papers *Lighting Research and Technology 1969-2000*. The Commission Internationale de L'Éclairage (CIE) has several new publications. In this issue we report on CIE 169, 171, 172, x028, and S 019/E.

Ellen Carter

Editor, *Color Research and Application*



2006 AIC Interim Meeting-Update

The 2006 AIC Interim Meeting will be held in Johannesburg, South Africa, at the Misty Hills Country Hotel. This event will bring together experts from all over the world to exchange the latest information on the trends and developments in color science, technology, art and design. The conference will cover all aspects of Color in Culture and Color in Fashion.

The technical program will include invited papers, as well as contributed and poster presentations. Conference contributions will be published as conference proceedings.

In addition, leading manufacturers of technical equipment will display both new and standard products at AIC 2006. Sufficient time will be available daily to visit these exhibits. For more information, see www.colourgroupsa.org.za/aic2006/aic_information.php.

Call for Papers : 2007 ACSeries on Coating Wood and Wood Composites

FSCT has issued a Call for Papers for the "Coating Wood and Wood Composites: Designing for Durability" Conference to be held on July 23-25, 2007, in Seattle, WA. The conference organizers seek to create a dynamic speaker and audience mix that includes coating makers, specifiers, applicators, end users, lumber companies, research agencies, and raw materials suppliers so that these constituencies can enlighten one another about what is needed and what is possible in coating technologies for the beautification and protection of wood and wood composites.

Those interested in presenting a paper should submit a 150-200 word abstract, along with contact information, by October 9, 2006. Include title of paper, author(s), company, address, telephone, fax, and email address. Send abstracts to Jennifer Majchrzak at FSCT, 492 Norristown Rd., Blue Bell, PA 19422-2350; 610.940.0777 x 4948; or email her at jenniferm@coatingstech.org. Official abstract forms are available by contacting FSCT headquarters.

CALENDAR

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

Ms. Cynthia Sturke
ISCC Office
11491 Sunset Hills Road, Reston, VA 20190
703-318-0263 tel 703-318-0514 fax
isscoffice@cs.com website: <http://www.iscc.org>

2006

- Sept 17- 22** NIP22: **International Congress on Digital Printing Technologies**, IS&T, Hyatt Denver Convention Center Hotel, Denver, Colorado, 703-642-9090, www.imaging.org
- Oct 8 -12** **Frontiers in Optics 2006, The 90th OSA Annual Meeting Laser Science XXII**, Rochester Riverside Convention Center, Rochester, New York, 202-223-8130, www.osa.org
- Oct 13-17** **Fall International Conference**, Color Marketing Group, Atlanta, GA, 703-329-8500, www.colormarketing.org
- Oct 19-20** **CIE Expert Symposium on Visual Appearance**, Paris/France www.mnhn.fr/cievisualappearance
- Oct 24-27** “**Colour in Culture and Colour in Fashion**,” AIC 2006, Interim Meeting, Misty Hills Country Hotel and Conference Centre, Johannesburg, South Africa, www.colourgroupsa.org.za
- Oct 24-25** **Matching and Control of Metallic and Pearl Colors**, a Detroit Coulor Council course, the Livonia site of Eastern Michigan University, Livonia, MI, Bill Longley, 734-420-4920, wlongley@juno.com, www.detroitcc.org
- Oct 30-31** **ICE 2006 Preshow Two-Day Short Course, Emulsion Polymerization and Waterborne Coatings**, Morial ConventionCenter, New Orleans, LA, 610-940-0777, www.coatingstech.org
- Oct 31-Nov 2** **AATCC's 2006 International Conference & Exhibition (IC&E)**, a co-located event with Megatex, which is co-anchored by the American Textile Machinery Exhibition International 2006 (ATME-I® 2006) and the Industrial Fabrics Association International Expo 2006 (IFAI Expo 2006), Georgia World Congress Center, Atlanta, GA, 919-549-8141, www.aatcc.org
- Nov. 1-3** **International Coatings Expo, ICE 2006**, Federation of Societies of Coatings Technology, (FSCT), 610-940-0777 email: fsct@coatingstech.org, www.coatingstech.org
- Nov 6-10** **Color Imaging Conference, CIC14**, Society for Imaging Science and Technology (IS&T) and the Society for Information Display (SID), Scottsdale, Arizona, 703-642-9090, www.imaging.org/conferences/cic14/
- Nov 14-16** **AATCC Fall Committee Meetings**, Radisson Hotel-RTP, Research Triangle Park, NC, 919-549-8141, www.aatcc.org
- Dec 4-14** **The Second International Joint Conferences on Computer, Information, and Systems Sciences, and Engineering (CISSE 2006)**, Institute of Electrical & Electronics Engineers (IEEE), e-conference, www.cisse2006.org/

2007

- Jan 23-25** **ASTM E12, Color and Appearance**, Embassy Suites Hotel; Ft. Lauderdale, FL, www.astm.org
- Feb 22-23** **ISCC and AATCC Joint Special Topics Conference on “Industrial Color Challenges**,” Hilton University Place in Charlotte, North Carolina, Ms. Kim Nicholson, AATCC, 919-549-8141, nicholk@aatcc.org, 610-832-9585, www.aatcc.org
- April 29-30** **ISCC 2007 Annual Meeting, Bridging the Creative and Production Sides of Color**, ISCC, Kansas City, Kansas, 703-318-0263, www.iscc.org

2007, Cont.

- May 7-11** **Identifying Geospatial Solutions, ASPRS 2007 Annual Conference**, Tampa, FL, (301) 493-0290, www.asprs.org
- May 8-11** **“Optical Radiation Consensus Standards and Industry,”** Council for Optical Radiation Measurement Annual Meeting in conjunction with NIST, Gaithersburg, MD, www.corm.org
- May 21-24** Archiving 2007, Society for Imaging Society and Technology, Arlington, VA, 703-642-9090, www.imaging.org/conferences/archiving2007/index.cfm
- Jun 27-29** **ASTM E12 Color and Appearance**, Waterside Convention Center; Norfolk, VA, 610-832-9585, www.astm.org
- Jul 4-11** **The 26th Session of the CIE**, Beijing, China, www.cie.co.at/news/news76.pdf
- Jul 12-14** **AIC 2007 "Color Science for Industry,"** Midterm Meeting of the International Color Association, Hangzhou, China, www.aic07.com

2008

- Jan 23-25** **ASTM E12 Color and Appearance**, Embassy Suites Hotel; Ft. Lauderdale, FL, 610-832-9585, www.astm.org
- Jun 15-18** **AIC Interim Meeting, Colour – Effects and Affect**, in Stockholm, Sweden, Swedish Colour Centre Foundation, Contact: Berit Bergström, berit.bergstrom@ncscolor.com

2009

- Sept 20-25** **AIC 11th Congress**, Sydney, Australia, Organizer: Colour Society of Australia, Contact: Nick Harkness, www.aic2009.org

Publications Available from ISCC Office

Color and Light by Fred W. Billmeyer Jr. & Harry K. Hammond, III. Authorized reprint from: ASTM Manual 17, Copyright 1996, ASTM International, 100 Bar Harbor Dr., W. Conshohocken, PA 19428. \$5 ea or 20 copies/\$50.00

Demystifying Color by Bob Chung, 11 pages. Discusses and explains ten myths about color. \$5 ea or 20 copies/\$50.00

Proceedings-9th Congress of the International Colour Association, AIC Color 01 Rochester, Allan Rodrigues, Ed., papers given at technical sessions..... \$75*

Guide to Material Standards and Their Use in Color Measurement (ISCC TR-2003-1). \$50*

*Plus shipping and handling

ISCC 75th Anniversary CD and Pin

This special CD, written and compiled by Ellen C. Carter and Cynthia Sturke, and a special anniversary pin can be yours for \$30. The CD contains two items: a slide show “Faces of the ISCC” and the document *Color in Science, Art and Industry: The Inter-Society Color Council*. Order the items from Cynthia Sturke at the ISCC office.



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

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