



# Inter-Society Color Council News

Issue 435

September-October 2008

## President's Column

This year's Annual Meeting and the Board Meeting were held in Baltimore, Maryland from Sunday, September 14 through Monday, September 15. The general chairs: Dr. C. Cameron Miller and Dr. Carl Anderson planned the technical aspect of the program, resulting in a very strong and informative meeting. The theme of the two day 2008 Annual Meeting was, "The RGBs of Color." The program consisted of the following three components:

- Are You Seeing Red? The Tying of Emotion to Color
- How Green is My Color? The Influences of Sustainability on Color
- Is That the Blue You Wanted? Influences of Light and Media on the Color we see

The three components directly tie to the three Interest Groups in the ISCC. Interest Group I, Basic and Applied Color Research, or "Is that the Blue



Incoming president, Maria Nadal, accepts gavel from outgoing President, Rob Buckley

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You Wanted?" examined the frontiers of color measurement and the latest thinking on appearance characterization. Presenters discussed technologies to better reproduce color in various formats: on-screen, printed, complex, and flat colors. Interest Group II, Industrial Applications of Color, or "How Green is My Color?" examined the influences of sustainability on developing, specifying and using color. Speakers discussed new environmentally friendly ways to color the world. Interest Group III, Art, Design and Psychology, or "Are you Seeing Red?" examined the tying of emotion to color. The presenters discussed how colors are chosen to cause emotions or feelings, and how color can influence decisions in how we live.

The Annual Meeting started with a special presentation called Color Flashback, which explores the history of color science. This inaugural presentation given by Kim Galloway discussed the comprehensive artifact of Ralph Stanzola's life's work, the Industrial Color Technology course, which he presented throughout his five decade career.

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The first session, "Are you Seeing Red?" had five presentations that covered how colors are chosen to cause emotions, how colors can influence purchasing decisions, and how educators teach these concepts to students. The second session contained three talks that dealt with various industrial applications of color. Color scientist and engineers use numerical specifications to accurately describe color. Professionals working in imaging have developed a natural language for the changes that they would like to see: "Make the blues more vivid." "The skin tones are too yellow."

The second day started with the third session, "How Green is My Color?" The focus of the session was on printing techniques including challenges and solutions for a more sustainable process.

At the awards luncheon the 2008 MacBeth Award was presented to Harold Van Aken who is recognized for his role in the design, development and commercialization of the NetProfiler® technology used to automatically document and correct the operational differences between groups of color measurement instruments and the process aims for those instruments. This technology provides large, multi-site suppliers of colored products the ability to maintain a level of inter-instrument agreement well below the product tolerances of the most critical applications.

The last session of the annual meeting was "Is That the Blue You Wanted?" describing the influences of light and media on the color we see. The topics ranged from analysis of computation models, characterization of instrument systems, and the day in the life of a color specifier.

The 2008 Annual Meeting truly represented the unique quality of the Inter-Society Color Council. The "RGBs of Color" captured the range of our members' interests in color in art, science and industry—represented by the three points of the triangle in the ISCC logo. The Council and its meetings are where specialists in these diverse areas can come together and where work in one area can enrich the application and enjoyment of color in another.

The Annual Meeting is when we say goodbye to officers and board members whose terms are ending. Leaving the board were A. Nurhan Becidyan from United Minerals Corporation, Steve Glasscock

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## HUE ANGLES

(Send contributions to Michael H. Brill, [mbrill@datacolor.com](mailto:mbrill@datacolor.com))

This issue we have the privilege of a column from Rolf G. Kuehni, author of many books on color order and on color technology (the latest two published in 2008, one of them reviewed in this issue). I believe Rolf's topic is a sesquicentennial...

### 150th Anniversary of Albert Henry Munsell's Year of Birth

The year 2008 should not pass without those of us in the color world remembering that 150 years ago A. H. Munsell (1858-1918) was born. Munsell was an artist, educator, and inventor, with five patents to his name. His color order system has proved to be enormously influential if, like all such efforts, less than perfect.

Born in Boston into comfortable circumstances, Munsell showed early interest in art as well as science related to art. In 1879, at age 21, he studied the newly published book by O. N. Rood, "Modern Chromatics," a book that became important to French postimpressionist artists. In the later 1880s he spent time in Paris, studying painting and the color order systems of people like Chevreul. Toward the end of the 19<sup>th</sup> century Munsell was employed as art instructor at the Massachusetts Normal Art School. Belonging to Boston's high society, he was widely acquainted with people in the arts and the region's academic establishments. All this proved helpful when he decided to develop a systematic means of teaching color order to his students. His initial idea was to use a "balanced" form of Runge's color sphere. When rapidly rotating the sphere, the colors on horizontal planes were to add up to neutral grays of various lightness levels. He already had twirled a multi-colored double pyramid in 1878, observing the phenomenon. For this idea he obtained in 1900 his second patent. Munsell realized the importance of objectively defining the color chips he prepared and in the same year invented a visual photometer, the 'Lumenometer,' patented in 1901.

The sphere implies three dimensions and after much thinking and discussion Munsell settled on hue, value (lightness), and chroma, the last a concept that his physicist friends had to become used to. Working with "aniline colors," he realized that different colorants have different maximal chroma levels and as a result the solid of his ordering system would have to be of irregular shape, a shape he came to

call "Munsell tree." Much thought was given to the system's final design.

As his "Color Diaries" show, Munsell had numerous discussions with many academics on the subject of color order. In 1905 Wilhelm Ostwald visited him and declared his interest in the new approach. A patent for his version of a color chart was applied for and granted in June 1906, with (at the time) a division of the hue circle into seven categories (Fig. 1).

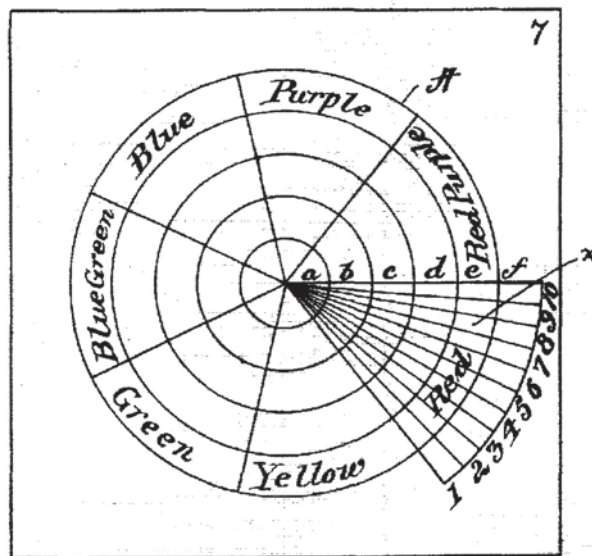


Fig. 1 Basic design of the color chart from U. S. Patent 824,374 of 1906.

In 1906 Munsell got to think about the relationship of his psychological order system to a psychophysical one. As usual, he spent the summer in Europe and returned in September on the 'Arquette' from Antwerp to Boston. At the Captain's Table he met several academics, among them "Dr. & Mrs. Franklin" (Christine Ladd-Franklin, famed psychologist, mathematician, and color scientist). They had extended discussions on the ship and during her visit to his office. She introduced him to König's early version of the chromaticity diagram (Fig. 2) and encouraged him to consider the relationship between that and his own color order system.

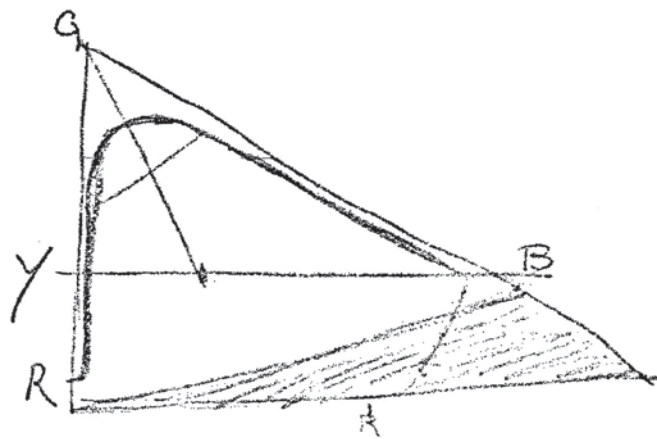


Fig. 2 Tracing of Munsell's sketch of König's chromaticity diagram, Color Diary, page 232.

In 1907 the first version with eight charts of the 'Atlas of the Color Solid' of the Munsell Color System was published, and the second edition in 1915 had grown to 15 charts. In 1918, the year of Munsell's death, the Munsell Color Company was founded and the rest, as they say, is history. Munsell's landscapes and portraits are curiosities today; his color order system is a lasting contribution to our understanding of the world of color.

Rolf Kuehni

President's Column

Continued from page 2

from Hallmark, and Jerald Dimas from Color Communications, Inc. and the outgoing past-president, Joanne Zwinkels from the National Research Council, Canada. The Council truly appreciates their time and effort. Joining the Board are Barbara Martinson from UMN, Henri DeBar from IsoColor, and Dave Wyble from RIT, MCSL and President Elect Francis X. O'Donnell.

What's next? The Council is holding an ISCC/IS&T/SID Special Topics Conference - Black and White in Portland, Oregon on November 15, 2008. This is a one-day meeting with a program devoted to the special challenges and solutions for black and white, two of the most important properties of a colored image. In addition, the council is planning the 2009 Annual meeting in conjunction with the Munsell Color Science Laboratory 25th Anniversary Symposium on June 7-8, 2009 in Rochester, New York. Look for more details in future newsletters and the ISCC website.

Maria Nadal,  
National Institute of Standards  
and Technology

Puzzle Feature

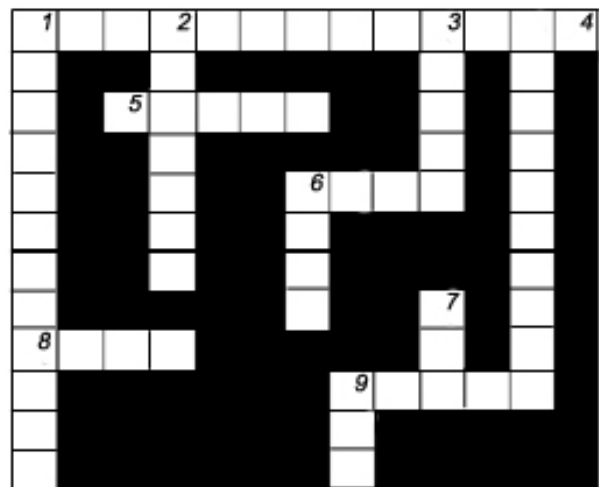
The ISCC newsletter editors are establishing a new feature -- puzzles with a color them. Please contribute a puzzle; all types are welcome. Send it to Cynthia Sturke at [isccoffice@cs.com](mailto:isccoffice@cs.com).

Theme: Color

Use the phone keypad to decode the clues. For example, 2 could be A, B, or C., and 5678 could be LOST.

Clues:

- |    |               |    |       |
|----|---------------|----|-------|
| 1a | 2667536368279 | 6a | 8663  |
| 1d | 247662842489  | 6d | 8468  |
| 2d | 7746279       | 7d | 483   |
| 3d | 82583         | 8a | 2695  |
| 4d | 7288728466    | 9a | 74336 |
| 5a | 74233         | 9d | 742   |



Puzzle submitted by Barbara Parker, JDS Uniphase. The solution will be published in the next Newsletter

## History of NetProfiler Development and the Effects on Companies

The Macbeth Award is quite a special honor to me because when I started at Macbeth in 1969 Norman Macbeth Jr. was at the reins. He had just taken over as the President of Kollmorgen as well as the head of Macbeth and several other groups.



Harold Van Aken Receives ISCC Macbeth Award from Rob Buckley and Danny Rich during ISCC 2008 Annual Meeting in Baltimore, MD.

He was a very humble guy and this award was typical of many of things he did that continued long after his death. He would walk through the factory and say hello to everyone by their first name and inquire about their family of which he knew most.

At that time I was developing densitometers and several years later we designed the first pulsed Xenon spectrophotometers with a grating.

I was getting more involved in the science of color and in 1993 proposed a Color Management System that included measuring and controlling CRT's, printers, scanners and light booths for the evolving electronic publishing industry. At the time it was difficult and time consuming to scan an image, display on a CRT and print it and expect the color to be correct without several trial and errors. Part of the system was a low-cost \$1,000 spectrophotometer/radiometer to measure the original copy, the CRT output, reflection copy and the lighting in the booth to generate profiles to correct each step so that the color was correct for each step. Our parent company Kollmorgen encouraged us to patent what ever we could with the system and we did get a patent issued for the combination spectrophotometer/radiometer.

In 1994 we decided to go after the desktop publishing industry and I gave a paper at the SPIE conference describing the Color Management System. There was a lot of interest but for the wrong reason. They were interested in the \$1,000 spectrophotometer. People still didn't believe that they could get the correct color every time with a calibrated system.

In 1995 we expanded the Color Management System to include the control of color measuring instruments for Industrial production of paint, plastics and textiles. The instruments were used only for comparison of physical standards to production samples since instruments could not be guaranteed to be measuring accurately. We developed a system that let the user measure a set of Macbeth calibrated color standards and software would compare the standard values and generate a profile to correct instrument parameters of scale, wavelength, bandwidth and straylight for subsequent measurements. The data was captured, then sent over the internet where a server computed the profile and downloaded to the instrument. The advantage of this method is that a company with many suppliers of color products could check the suppliers to see if their color measurement equipment was in compliance. I called this system CIMS for Color Information Management System but the President said that will never become a popular name and we should call it something like NetProfiler that describes what it does.

In 1996 Gretag introduced the Spectrolino which was a low-cost spectrophotometer/radiometer that was targeting the digital imaging industry that we were pursuing. Our President informed them that he would be seeking a royalty for every system sold since they were infringing on our patent.

In 1997 Gretag and Macbeth merged. The President said that the potential patent infringement was a large part of it and it was agreed that Gretag would develop the color management systems and Macbeth the Industrial Color Management.

In 1998 a patent was issued for NetProfiler that blocked all competitors from offering a network based Color management system for color measurement instruments. Both major competitors constructed systems but they were not network based and didn't become popular.

Today GretagMacbeth is merged with Xrite - did NetProfiler play a part?

*Harold Van Aken, X-Rite*

## Member News

Send Contributions to Cynthia Sturke ([isccoffice@cs.com](mailto:isccoffice@cs.com))

### Mark D. Fairchild to Receive Raymond C. Bowman Award

The Society of Imaging Science and Technology's Raymond C. Bowman Award is sponsored by the Tri-State Chapter. The award is given in recognition of an individual who has been instrumental in fostering, encouraging, helping, and otherwise facilitating individuals, either young or adult, in the pursuit of a career beginning with an appropriate education, in the technical-scientific aspects of photography or imaging science. Mark will receive the award at this year's Color Imaging Conference in Portland. He was particularly cited "for his outstanding dedication in nurturing young researchers towards highly-successful careers in color science and imaging."

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### Roy S. Berns Awarded the Newton Medal

The Colour Group (Great Britain) presented Roy with the Newton Medal during his delivery of the Newton Lecture, March 5, 2008. The award honors Sir Isaac Newton, the founder of color science and is presented every two years in recognition of lifetime achievement and significant contributions to the discipline. Previous recipients are many of Roy's heroes who he has met during his own distinguished career including W.D. Wright, R.W.G. Hunt, and D. L. MacAdam. The title of the lecture was "The Use of Color Science in Art Conservation." Roy drew a comparison to the first medal recipient, W.D. Wright, and their common interest in spectral-based art conservation science and noted that Professor Wright was his model of a color-science educator.

### Mike Brill Enjoys "English-Teaching Vacation" in Russia

For three weeks (June 29-July 19), Mike Brill was in Tambov, Russia (300 miles southeast of Moscow) teaching English to 64 Russian undergraduate and graduate science students. Mike was one of eight teachers in a program sponsored by the U.S. Civilian Research and Development Foundation (CRDF), a nonprofit organization authorized by U.S. Congress and established in 1995 by the National Science Foundation. The mission of the CRDF is to promote international scientific and technical collaboration through grants, technical resources, and training.

Four of the teachers specialized in teaching English as a second language, and four were scientists. Each teacher wrote and then taught from a syllabus designed to facilitate dialogue in English while remaining in the teacher's domain of knowledge. There were five lessons repeated six times each. Perhaps not surprisingly, Mike's course was called "Color, Vision, and Invention." Influenced by the tastes of the students, Mike's course also ventured into other areas, including heroism in science, philosophical discussions on the future of physics, and a math problem at the beginning of each class.

Including all the courses, the program scintillated with discussions in many scientific areas, and at the same time students wrote poetry, created artwork, joined teams for play, and even enacted dramatizations. Excellent creative products emerged from this experience, not all of them having to do with English-language proficiency. And all the students completed the program.

By the way, in Russia, math problems are popular. That and the prevailing language reminded Mike of where he was.

[**Note:** For other descriptions, pictures, and videos of the trip, see [www.kirstensanford.com/2008/07/28/the-russian-experience/](http://www.kirstensanford.com/2008/07/28/the-russian-experience/), and [www.guilford.edu/physics/dasmith/crdf08/](http://www.guilford.edu/physics/dasmith/crdf08/).]

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### Book Review:

*Color Vision and Technology*, by Rolf G. Kuehni, (American Association of Textile Chemists and Colorists, Research Triangle Park, NC, 2008), 244 pp., \$67 for members, \$95.00 for non-members, e-book.

The new e-book *Color Vision and Technology*, is another of Rolf G. Kuehni's general treatises on color that manage in a comparatively brief space to summarize an immense field. This one is not so quantitative as some, nor so oriented to color-order systems as some others. And contrary to much of Kuehni's earlier work, this one doesn't emphasize philosophical discussions. On the other hand, it contains material (especially on textiles and dyeing) that doesn't appear in his other books. The concepts and definitions are all present, even to figures containing chemical formulas. The book is long on figures and definitions (e.g., an 18-page glossary), short on equations and literature references.

The point of view is announced in the Introduction (which also contains an annotated chapter-by-chapter summary): "The human color-vision system is not built according to conventional instrument performance standards. It is the result of natural adaptation to prevailing conditions over millions of years, with the goal of enhancing an individual's life prospects. [...] Rather than being a precise, abso-

lute color measuring instrument, our color vision system is built to determine where one object ends and another begins and to provide information to the brain that helps in interpreting what the object in the visual field may be. [...] What is important in this regard is to determine if two objects are the same or different and not the degree of the difference. Even expert colorists tend to disagree reliably about how big the perceived difference between two similar samples is." And yet Kuehni is able to define in this context the value of colorimetry in industry and particularly in the textile industry. That is quite an accomplishment.

I find the glossary entries impeccable, sometimes outshining those in published standards. For example, Kuehni defines a spectrophotometer as "an instrument that measures intensity of light as a function of the wavelength of the light. Such measurements are used to calculate (by the instrument) the spectral reflectance values of reflecting material, by comparing the amount of light from the instrument's light source as reflected from a calibrated standard plaque with that reflected from the reflecting sample." Compare this definition with that of ASTM E284, which refers to "photometric" and hence (inappropriately) inherits the photopic luminous efficiency function.

The glossary is where the e-book format shines: when each term first appears in the text, it is

*Continued on page 9*

## COLOR RESEARCH AND APPLICATION

### In This Issue, October 2008

In the first issue this year, Rolf G. Kuehni began a series entitled “Forgotten pioneers of color order.” In that issue he wrote about Gaspard Grégoire. Now in this issue the series continues with an article about the German painter “Matthias Klotz 1748-1821” who lived in approximately the same time period as Grégoire. Klotz’s color canon is the most carefully executed of the early 19<sup>th</sup> century. Also Klotz contributed a gray scale the construction of which used a solid basic approach of geometric scaling. Both Grégoire and Klotz come up again the book *Color Ordered* by Kuehni and Schwarz, which is also reviewed in this issue.

We know that people see colors differently and these differences have been studied extensively. One particular case, when two spectrally different colors, match to one observer (i.e., result in the same photoreceptor signals), but do not match (to a greater or lesser extent) to a different observer, is called *observer metamerism*. Our next article examines the “Effect of Observer Metamerism on Colour Matching of Display and Surface Colours.” The individual variability of asymmetric color matching is typical for the industrial condition of matching surface colors compared those on a computer display (soft proofing). Boris Oicherman, M. Ronnier Luo, Bryan Rigg, and Alan R. Robertson found that the contribution of observer metamerism was negligible in these practical conditions. They go on to suggest that individual variability in these conditions is governed by chromatic discrimination and can be modeled by the advanced color difference metric (CIEDE2000) with its parameters suitably adjusted.

In the last paragraph, I mentioned colors that are “specularly different,” that means the two samples have different spectral curves when measured with a spectrometer. In the case of reflecting materials, the reflectance curve provides key information about the makeup of the material, and/or the illumination in the system. This information can be used as input in color formulation programs, or for other purposes. However, in many situations the measurements available are colorimetric (i.e., three tristimulus values) rather than spectral. Is there a way to get the spectral data from the measured

colorimetric information? No, but we can often generate information which could be useful. In recent years several articles have been published working on this problem. In our next article Farnaz Agahian, Seyed Ali Amirshahi, and Seyed Hossein Amirshahi propose a method for the “Reconstruction of Reflectance Spectra Using Weighted Principal Component Analysis.” The authors report that the weighting of the principal component analysis shows significant improvement over the standard principal component analysis approach.

In this issue we have a group of four articles dealing with people’s response to color. Of these four, two articles go into more depth about color for people of different ages. Studies have reported a gradual development of color perception from birth through youth, and a decrease after age 30. Age related losses in color discrimination have been the focus of much research. But what about color memory in children? Joaquin Pérez-Carpinell, Vincente J. Camps, and Mario Trovati examine the effect of aging in simultaneous color matching and color memory matching for 9- to 11-year old boys and girls and comparing them to young adults. They attempt to answer four questions in the article “Color Memory in Children”: 1) Are there age related differences? 2) Are there sex related differences? 3) Does delay time influence memory? and 4) What happens with short-term hue memory?

The second article deals with color displays. Generally the color in displays has been optimized for younger adults, ignoring the fact that there are significant changes in color perception as people age. While details of these changes are known, it is difficult to apply these directly to optimization of color for older adults because the changes are mitigated by long-term adaptation. Therefore, the approach taken in our next article is to use preference, a high-level factor having an effect on display acceptability, as a parameter. First László Beke, Gábor Kutas, Youngshin Kwak, Gee Young Sung, Du-Sik Park and Peter Bodrogi examine “Color Preference of Aged Observers as Compared to Young Observers” in terms of white point preference, chroma perception, unique and preferred hues. Then they report on preference differences in terms of global and local contrast, white point, average chroma, and colorization techniques for several photo realistic images. Results indicate significant differences between young and aged observers.



Next we move from color preference on visual displays to the effect of color on exterior architecture. Ebru Cubukcu and Ilker Kahraman investigated architects' and non-architects' evaluative and cognitive judgments of color on building exteriors. In "Hue, Saturation, Lightness and Building Exterior Preference: An Empirical Study in Turkey Comparing Architects' and Non-Architects' Evaluative and Cognitive Judgments" they report on a study in which architects and high school teachers rated building exteriors for seven point semantic scale for qualities, such as like-dislike, natural-artificial, and relaxing-distressing.

In the fourth article on response to color, "The emotional connotations of colour: A qualitative investigation," Thomas Clarke and Alan Costall report on the use of a different approach than most previous researchers. That is, they allowed the participants to imagine their own colors and situations, rather than showing them specific colored patches. Also they used a semi-structured interview technique. While this approach gave results generally consistent with past research it also threw light upon more subtle connotations of colors, the multiple meanings of a single color, and also the participants' reasons for these connotations, ranging from individual experiences to cultural conventions and stereotypes.

In the last issue we had three articles about colored products. The final article in this issue is also about colored products, but it comes at a completely different stage in the product cycle – the design stage where the desired colors are being chosen to increase appeal of the product to the consumer. Also this article brings us full circle reflecting back to the concepts of color harmony presented in Antal Nemcsics series on Color Harmony. Shih Wen Hsiao, Fu-yuan Chiu, and Hsin-Yi Hsu propose a system for selection of clothing color which considers the color preference of the customer, the image desired, the skin tones of the user, and color harmony. These are all combined in a fuzzy logic model. The authors describe their system in "A Computer-assisted Colour Selection System Based on Aesthetic Measure for Colour Harmony and Fuzzy Logic." While the example of clothing color is used in the article, this system can be extended to the selection of colors for other products.

The color appearance model, CIECAM02, has received much attention and wide acceptance since its introduction in 2002. It has also been suggested

for much broader applications than originally intended. However, all this attention has brought more careful examination of the model. In 2006 in this journal, Michael Brill wrote about Irregularity in CIECAM02. Last year, the Commission Internationale de l'Eclairage (CIE) formed a technical committee (TC 8-11 CIECAM02 Mathematics to investigate the improvements of the CIECAM02 model to avoid mathematical inconsistencies) and a reportership (R1-42 Extensions of CIECAM02). Now in the Communications and Comments Section Michael H. Brill and Sabine Süssstrunk discuss "Repairing Gamut Problems in CIECAM02: A Progress Report."

We end this issue with the review of *Color Ordered*, which I mentioned in the first paragraph of this column. I also want to point out that an erratum to "Integer Programming for the Optimal Reduction of Calibrations Targets" by Alsam and Finlayson, which was published in the June issue, is included in this issue.

*Ellen Carter, Editor, Color Research and Application*

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#### Book Review

*Continued from page 7*

hyperlinked to the appropriate glossary entry. At the end of the glossary entry, there is a page reference to where the term first appears. Other features of the e-book format are hard to take, at least for me. I prefer to read a lengthy manuscript in hardcopy, and black-and-white hardcopy wouldn't do service to the excellent graphics in the book.

A word on the references: Aside from figure attributions, Kuehni cites only two references (his own 2005 book and that of Berns, 2000), prefaced by the following remark (p. 225): "Unfortunately, the selection of reasonably up-to-date books (less than eight years old) that offer more in-depth information on color science than offered in this book is very limited..." Because of many color-management books in the past 8 years, and at least one on color constancy, I'm inclined to change "books" to "broad-area survey books". With that change, I would agree with Kuehni's bold claim. Just the same, I think the book is best suited to workers and managers in the textile industry who want to know the how and why of color, especially in the context of dye chemistry, sample preparation, and textile spectrophotometry.

*Michael H. Brill*

## CALENDAR

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

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### 2008

- 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](http://www.coatingstech.org/Programs/index.cfm?event=ICEAttendeeInfo)
- Oct 19-23** **Frontiers in Optics 2008 Laser Science XXIV**, OSA's 92nd Annual Meeting, Rochester Riverside Convention Center, Rochester, NY [www.frontiersinoptics.com/](http://www.frontiersinoptics.com/)
- Oct 22-24** **Materials and Sensations (MS2008) 2nd edition**, IPREM - Pau, France, [www.2psm.fr/ms2008/index.php](http://www.2psm.fr/ms2008/index.php)
- 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](http://www.imaging.org)
- Nov 11-14** **Views on Hues, CMG's 2008 Fall International Conference**, Phoenix, AZ, [colormarketing.org/Visitors.aspx?id=893&](http://colormarketing.org/Visitors.aspx?id=893&)
- 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](mailto:isccoffice@cs.com)
- Nov 17-20** **The 17th William T. Pecora Memorial Remote Sensing Symposium**, The Imaging and Geospatial Information Society (ASPRS), Adams Mark Hotel, Denver, CO, [www.asprs.org/pecora17/index.php](http://www.asprs.org/pecora17/index.php)

### 2009

- Jan 21-23** **ASTM E12, Color and Appearance**, Embassy Suites Hotel; Ft. Lauderdale, Florida, [www.astm.org](http://www.astm.org)
- Mar 10-12** **AATCC's International Conference (IC)**, Hilton Myrtle Beach Resort, Myrtle Beach, SC, 919-549-8141, [www.aatcc.org/ice/index.cfm](http://www.aatcc.org/ice/index.cfm)
- Mar 15-17** **TAGA 61st Annual Technical Conference**, The Hotel Monteleone, New Orleans, Louisiana, [www.gain.net/eweb/docs/taga/09\\_taga\\_cfp.pdf](http://www.gain.net/eweb/docs/taga/09_taga_cfp.pdf)
- May 25-26** **CIE Midterm Meeting 2009**, CIE Central Bureau, organizer, Budapest, Hungary, [ciecb@cie.co.at](mailto:ciecb@cie.co.at)
- May 27-29** **LEDs and Solid State Lighting Conference**, CIE-Hungary, Budapest, Hungary, [www.cie.co.at/index\\_ie.html](http://www.cie.co.at/index_ie.html)
- Jun 1-3** **Light and Lighting, CIE Division 1 Meeting**, Budapest, Hungary, [www.cie-hungary.hu](http://www.cie-hungary.hu)
- Jun 7-9** **Munsell Color Science Laboratory 25th Anniversary Symposium**, Rochester, New York, [mcsl.rit.edu](http://mcsl.rit.edu)
- Jun 7-9** **ICSS 2009 Annual Meeting**, in conjunction with the Munsell Color Science Laboratory Symposium, Rochester, New York 703-318-0263, [www.iscc.org](http://www.iscc.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](http://www.astm.org)
- Sept 27-Oct 2** **AIC 11th Congress**, Sydney, Australia, Organizer: Colour Society of Australia, Contact: Nick Harkness, [www.aic2009.org](http://www.aic2009.org)

## Call for Judd Award Candidates

AIC members and Observers are requested to propose candidates to receive the 2009 AIC Deane B. Judd Award. The award was established in 1973 to recognize work of international importance in the fields of color perception, color measurement, and/or color technology. The list of previous distinguished awardees is: 1975-Dorothy Nickerson, 1977-William David Wright, 1979-Günter Wyszecki, 1981-Manfred Richter, 1983-David L. MacAdam, 1985-Leo H. Hurvich & Dorothea Jameson, 1987-Robert W. G. Hunt, 1989-Tarow Indow, 1991-Hans Vos & Pieter Walraven, 1993-Hoshinobu Nayatani, 1995-Heinz Terstiege, 1997-Anders Hård, Gunnar Tonnquist & Lars Sivik, 1999-Fred W. Billmeyer, Jr., 2001-Daniel Lozano, 2003-Mitsuo Ikeda, 2005-John Hutchings, and 2007-Alan R. Robertson. Supporting documentation on the candidate's worthy accomplishments in the world of color as well as all biographical information is required before a candidate can be considered. Send proposals and all documentation until December 20, 2008 to AIC Vice President, Mrs. Berit Bergström, Chair of the 2009 AIC Deane B. Judd Award Selection Committee, at: Berit Bergström Swedish Colour Centre Foundation Box 49022, SE-100 28 Stockholm, Sweden Tel: +46 8 617 47 11. Fax: +46 8 617 47 47, or [berit.bergstrom@ncscolor.com](mailto:berit.bergstrom@ncscolor.com).

### Publications Available from ISCC Office

**ISCC 76th Annual Meeting Program and Abstracts**, ISBN 978-1-4243-4273-0 \$25.00\*

**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

**ISCC 75th Anniversary Commemorative CD and Pin** \$30\*

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

\*Plus shipping and handling

## CAUS's Colorful Inspiration

The next color forecast of The Color Association of the United States will be Interiors/Environmental 2010-11. This premium forecast is not only crucial for those working in home products and interior design, but also has graphic and marketing applications that can be extended to any creative field. The theme of the forecast is Contrast & Contradiction which evokes a sense of clashing elements. The palette includes variations on warm neutrals and stone cold grays with a distinct copper for emphasis. With tonal rows of strong blues, yellowed greens, bold pinks and deep purples we find organization intermittently amongst chaos. Shine is a diva and fuzz reigns in the texture kingdom as soft, welcoming yellows refuse to surrender to our cold economic climate. For information on purchasing this forecast and/or becoming a member, please visit [www.colorassociation.com](http://www.colorassociation.com).

### Advertising Policy

The ISCC advertising policy for the ISCC News is as follows: Pre-paid color-related advertising will be accepted 30 days in advance of the publishing date. The rates are:

**\$100 business card-size \$250 1/4 page**

**\$500 1/2 page \$1,000 full page**

The editor reserves the right to determine the acceptability of the advertising. A 20% discount is available for a yearly contract.

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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.

## ISCC Sustaining Members

Avian Technologies	<a href="http://www.aviantechnologies.com">www.aviantechnologies.com</a>	603-526-2420
BYK-Gardner USA	<a href="http://www.bykgardner.com">www.bykgardner.com</a>	301-483-6500
Ciba Specialty Chemicals	<a href="http://www.cibasc.com">www.cibasc.com</a>	302-633-2042
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Datacolor	<a href="http://www.datacolor.com">www.datacolor.com</a>	609-895-7432
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Hunter Associates Laboratory, Inc.	<a href="http://www.hunterlab.com">www.hunterlab.com</a>	703-471-6870
IsoColor Inc.	<a href="http://www.isocolor.com">www.isocolor.com</a>	201-935-4494
JDS - Flex Products	<a href="http://www.jdsu.com">www.jdsu.com</a>	707-525-7007
Konica Minolta	<a href="http://www.konicaminolta.us">www.konicaminolta.us</a>	201-574-4000
Pantone, Inc.	<a href="http://www.pantone.com">www.pantone.com</a>	201-935-5500
PPG Industries, Inc.	<a href="http://www.ppg.com">www.ppg.com</a>	724-274-3532
X-Rite	<a href="http://www.x-rite.com">www.x-rite.com</a>	800-248-9748
Xerox Corporation	<a href="http://www.xerox.com">www.xerox.com</a>	585-422-1282

## ISCC Member Bodies

[American Association of Textile Chemists and Colorists \(AATCC\)](#)  
[American Society for Testing and Materials International \(ASTM\)](#)  
[American Society for Photogrammetry & Remote Sensing \(ASPRS\)](#)  
[The Color Association of the United States, Inc. \(CAUS\)](#)  
[Color Marketing Group \(CMG\)](#)  
[Color Pigments Manufacturing Association \(CPMA\)](#)  
[Council on Optical Radiation Measurements \(CORM\)](#)  
[Detroit Colour Council \(DCC\)](#)  
[Federation of Societies for Coatings Technology \(FSCT\)](#)  
[Gemological Institute of America \(GIA\)](#)  
[Graphic Arts Technical Foundation \(GATF\)](#)  
[Illumination Engineering Society of N. America \(IESNA\)](#)  
[International Color Consortium \(ICC\)](#)  
[National Association of Printing Ink Manufacturers \(NAPIM\)](#)  
[Optical Society of America \(OSA\)](#)  
[Society for Information Display \(SID\)](#)  
[Society of Plastics Engineers, Color & Appearance Div.\(SPE\)](#)  
[Society for Imaging Science and Technology \(IS&T\)](#)  
[Technical Association of the Graphic Arts \(TAGA\)](#)

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### Scenes from the 2008 ISCC Annual Meeting



Mike Brill receives certificate of appreciation for long term Interest Group and Project Committee Co-ordinator from Rob Buckley.



Outgoing BOD member, Jerry Dimas receives award of appreciation



Roy Berns, Joanne Zwinkels, Maria Nadal, Cameron Miller, John Conant, Frank O'Donnell enjoy the Symposium luncheon together.



Cameron Miller receives an appreciation certificate for Chairing the Baltimore ISCC Annual Meeting.



A Presidential Array: Rob Buckley, outgoing President, Joanne Zwinkels, Past-President, Maria Nadal, incoming President, Frank O'Donnell, President Elect



Carl Anderson receives an appreciation certificate for Chairing the Baltimore Symposium.