



Inter-Society Color Council News

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Roy Berns to Receive ISCC's Godlove Award

At this year's ISCC Annual Meeting, Dr. Roy Berns will receive the 2007 Godlove Award, honoring him for his seminal and sustained contributions, through both research and education, in many diverse areas of color and imaging science and for his exceptional leadership in the color community.

Dr. Roy Berns is the Richard S. Hunter professor of Color Science, Appearance and Technology in the Center for Imaging Science at Rochester Institute of Technology. He has developed a leadership position in many areas of color and imaging science: through the CIE, as chair of several committees and active contributor in many others; the IS&T,

which elected him as a Fellow in 2002; the Council for Optical Radiation measurements, as a board member and noted contributor of fundamental metrology; the ISCC, as past board member and MacBeth Award recipient; and the Munsell Color Science Laboratory at RIT which he has directed for half of its twenty-five years and through which he has established a highly effective bridge between



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academia and industry which provides great benefit to both communities

Well known as an educator, he has promoted and developed academic programs, notably the M.S. and Ph.D. degree programs in Color Science at RIT, and applied short-course programs in color science and engineering at RIT and around the world. The impact of Dr. Berns' teaching has been propagated through the hundreds of students whom he has introduced to the science and technology of color, many of whom in turn have gone on to teach color science and technology and to make significant contributions to the field. The very popular and accessible text that Dr. Berns rewrote, the third edition of *Billmeyer and Saltzman's Principles of Color Technology*, has been another significant contribution to the field

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of color science, and nicely illustrates how Dr. Berns has worked to expand upon the teachings of previous generations to provide insight for future generations of color experts.

The Godlove Award also recognizes the very significant technical contributions made in the fields of color science and imaging by Dr. Berns through his research work in many areas, such as color measurement, multi-spectral capture, and printing. These research contributions, accounting for over 200 publications, are difficult to separate from his educational contributions, as many of the published works include student authors, many of whom are listed as first author. This further illustrates the leverage that Dr. Berns has achieved by providing his students with both the knowledge and the experience necessary to continue making their own contributions to the field. In addition, he has successfully facilitated the practical application of this body of work through numerous research projects for both industrial and cultural institutions.

Some of the areas in which his research work has clearly produced significant advancements in the field of color science include color difference perception and modeling, color systems modeling, and spectral imaging. In the area of color differences, Dr. Berns has been involved in both the elucidation of important psychophysical data and in the ongoing creation and improvement of color difference equations for industrial applications. These contributions have become fundamental components of advances such as the CIE ΔE 2000 equations. His work on color systems modeling has greatly improved the techniques used to characterize the colorimetric properties of imaging systems, which has helped to enable the practical implementation of color management systems. The natural extension of that research has been in the creation of spectral imaging systems in recent years that are being used by museums and archivists to better document, conserve, and reproduce works of art and other cultural heritage.

The Godlove award is a very fitting recognition for the breadth and depth of Roy Berns' sustained and significant contributions to the field of color and imaging science. His endeavors have empowered numerous students and advanced many areas of understanding in color and imaging science, both directly through his own research and indirectly through the many researchers that he has trained.

Eric Zeise, Kodak

HUE ANGLES

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

We know 1931 as the birth-year of the ISCC and of the CIE Standard Observer, but others associate that year with the Great Depression. Color science seems to have matured and thrived during the Depression years, and in particular we can learn....

Lessons from Eastman Kodak in the Great Depression

Great wine thrives in a dry season, and great color science has thrived in times of economic downturn. Eastman Kodak thrived twice in this way before most of us were born. The first time was in the 1890s, when the panic was about redeeming securities for gold (of which there was not enough). In Rochester, a backwater with no particular natural resources, Kodak produced its Brownie and Folding Pocket cameras. Photography took off.

Then, in the Great Depression of the 1930s (whose circumstances are more familiar to us), color photography took off. The ingredients were present well in advance: Invention of the subtractive technique by Cros and Ducos du Hauron (1869), and CMY color separations that required three separate shots for one picture (or three beam-split images in register). Rudolf Fischer's discovery of dye-coupling (1912) was critical, but lay in hibernation until, in 1935, Mannes and Godowsky at Kodak (locally known as "Man and God") invented three-layer subtractive-color film that enabled a full color photo in a single shot. At that point Kodachrome film was born [1]. There followed in 1937 and 1938 a number of top-notch color-photography articles [e.g., J. A. C. Yule, *J. Opt. Soc. Am.* **28**, 419-426 (1938); D. L. MacAdam, *J. Opt. Soc. Am.* **28**, 466-480 (1938); D. L. MacAdam, *J. Opt. Soc. Am.* **28**, 399-418 (1938); A.C. Hardy and F. L. Wurzburg, *J. Opt. Soc. Am.* **27**, 227-240 (1937).]

Credit is of course due to the inventors of Kodachrome and to the authors of these articles, but also credit belongs to the direction of the Kodak laboratories by C. E. K. Mees, author of many books on organization management as well as on photography. Much constructive incubation was happening during the bad years. Together with a keen sense of what is needed to "prime the pump" during such years, Mees had a perspective of science and technology as being in a reciprocal relationship. Martin Scott [2] has said, "Paraphrasing Mees: 'Science has been good to Photography, and Photography should

be good to Science.' Guided by that motto, he made many special films and emulsions for scientists with no regard for profitability."

Credit for Kodak's success accrues to an even higher managerial level. It must not be forgotten that, in 1931, Kodak and 13 other companies fostered what was known as the Rochester plan [3]—a system of unemployment insurance that came some years before Roosevelt's national plan. Because only 14 companies participated, the plan lasted only a few years, but it managed to cushion the blow to unemployed workers from 1933 to 1935, and Kodak didn't need it by 1936. (Presumably Kodachrome helped here.) Notable in the implementation of the Rochester plan was a curious confluence of pragmatism and compassion: "Just before implementation of the Rochester Plan, corporate executives at Kodak let plant managers know that they would be held accountable for future unemployment and that it would not reflect favorably upon them if benefit payments were too high." [3] Big bonuses were not linked with layoffs, ... then. Another difference from our recent experiences nationally: Kodak stockpiled inventory and redirected people to increase this inventory during lean times. This is the exact opposite of "just-in-time" delivery, and helped decrease the need for seasonal layoffs (and perhaps longer-term effects as well).

Of course, part of the credit for Kodak's success during the 1930s belongs to circumstance. During other economic downturns, Kodak learned how to stockpile inventory, respect research, and reward employee retention. Part of the circumstance was the extreme profitability of photographic film—which has lately become somewhat obsolete.

What can we learn for today from Kodak's Depression experience? Do our lean inventories and draconian logistics destabilize our corporate survivability? Do AIG-style bonuses de-incentivize economic prudence? Does "just-in-time" research undermine longer-term goals? Maybe we should just

leave this alone and paraphrase Freud: Sometimes a roll of film is just a roll of film.

I would like to adopt Martin Scott’s positive note that may inform other answers: “Five hundred years of letterpress; fifty years of lithography; and now, how many years of the new technologies? If I’ve learned anything, it is not to predict, and especially don’t presume to know the rate of change.”

*Michael H. Brill,
Datacolor*

[1] Beaumont Newhall, *The History of Photography*, Museum of Modern Art, New York, 1964, p. 193.

[2] Martin L. Scott, “Introduction: Images for Science,” *Images from Science 2*, June 2008, http://www.rit.edu/cias/ritphoto/ifs-2008/about_IFS.html

[3] Richard E. Noll, “Marion B. Folsom and the Rochester Plan of 1931,” *Rochester History* (Vol. 61, 1999), Ed. Ruth Rosenberg Naparstek.

Phil Hunter Winner of 2009 ISCC Nickerson Award

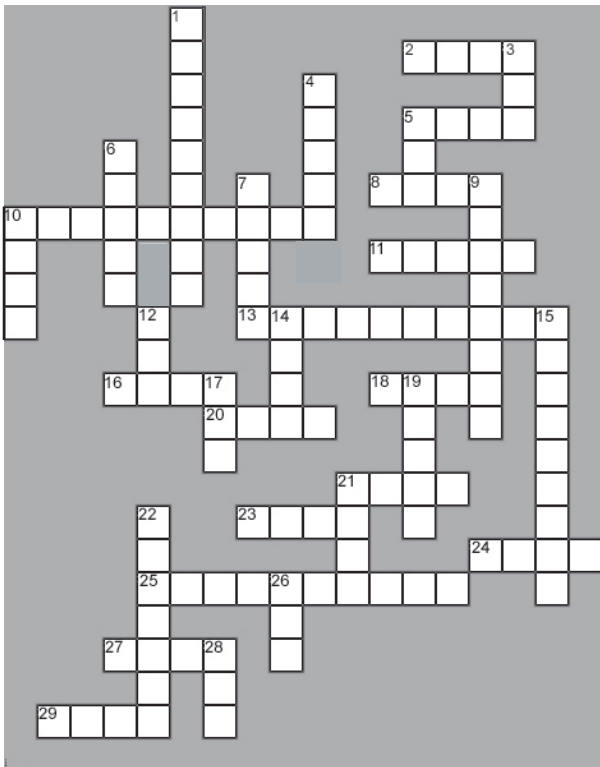
The Inter-Society Color Council (ISCC) is pleased to announce that its 2009 Nickerson Service Award will be presented to Phil Hunter during its Annual Meeting in Rochester, NY this June.



The ISCC Nickerson Service Award was established in 1980 to recognize outstanding

long-term contributions toward the advancement of the ISCC and its aims and purposes. The Award is named to honor the late Dorothy M. Nickerson, a founding member of the ISCC, its Secretary from 1938 to 1950, and its President from 1954 to 1956.

Puzzle Feature



Across

- 2. Particle’s alter-ego
- 5. Engage in a murky fraternity rite
- 8. Burning glass
- 10. Intelligence, but not luminance
- 11. Central area of the retina
- 13. Having no 5D.
- 16. Drink and its law of absorption
- 18. Light beige
- 20. The anatomy guy, across the pond.
- 21. Gonio-apparent failure
- 23. Cyanotic duck (or blue-green duck)
- 24. Flowering eye muscle
- 25. The end of light—no more reflection
- 27. Modify color of a material
- 29. Miss Muffett’s off-white food

Down

- 1. One of 300 in the visible range
- 3. Evil palindrome of vision
- 4. Read quickly and shine
- 5. Colorful companion of “cry”.
- 6. Not heavy but making an impression on the eye
- 7. Sign of a change
- 9. Unabridged story of a light
- 10. Depressed or cold, or source of surprise
- 12. Writes the rule-book on light from Vienna (abbr.)
- 14. Orange eye-catcher, or catcher in the eye
- 15. Opposite of 13A
- 17. CRT or LCD primaries
- 19. Light, object, and vision =?
- 21. British digs with no flash material
- 22. See-through property of these clues
- 26. Ire-ish color
- 28. Author Amy’s summer skin

Puzzle by Mary McKnight with clues written by Mike Brill, Datacolor

Member News

Datacolor Donates Last VCS-10 Color Simulator to University

LAWRENCEVILLE, NJ – May 12, 2009—Datacolor, a Sustaining Member of the ISCC, has just donated its last VCS-10 unit to the Philadelphia University to be used for education in color science and technology. The VCS-10 is a color simulator that has seven colored disks, all rotating at high speed (1800 rpm) to produce a time-averaged visual response. To match a color in the included light box (with fluorescent or incandescent light), an observer controls the angular subtenses of the interleaved disks while they spin together. Although spinning-disk color synthesis has been known since J. C. Maxwell in the 1850s, the interleaving of the disks and electronic adjustment “on the fly” were novel, so Datacolor (then Applied Color Systems) was granted US Patent 4,310,314 in 1982 for the idea (co-invented by Philip R. Worn, Ralph A. Stanziola, and Donald R. Hall). Ralph Stanziola was an alumnus of Philadelphia University (then Philadelphia College of Textiles and Science), and Datacolor felt it was appropriate to donate the last device to his alma mater in honor of his memory.

The VCS-10 was developed to help design and specify color, eliminating the need to exchange physical samples as part of the approval process. Although the VCS-10 was developed in the late 1970's and early 1980's, its color gamut and inter-instrument agreement still outperform current digital monitors. Previously donated units of the VCS 10 have had a remarkable impact on color education. One unit, which Datacolor donated to the Rochester Institute of Technology in 1990, was central to at least one Master's thesis written by graduate student, Mark Shaw.

Mark A. Sunderland, Assistant to the Dean, School of Engineering and Textiles, Philadelphia University, was the recipient of the VCS-10. As part of the university's strategic plan, “Design, Engineering & Commerce,” Sunderland is now working to establish the Color Institute where the VCS 10 will be used across a broad range of curricula.

“It is both an honor and privilege to present Philadelphia University with the last known VCS-10 color simulator in the name of Ralph Stanziola,” said Albert Busch, CEO, Datacolor. “Mr. Stanziola and the VCS-10 represent a rich history and culture at Datacolor and we are pleased that the device will continue to be used as a teaching tool at the university level,” added Mr. Busch.

Diamonds

The Spring 2009 issue of the Gemological Institute of America's (GIA) *Gems & Gemology* features a revealing look at the French Blue diamond, rare colored diamonds from Australia's Argyle mine, and the cause of pink zones in copper-bearing tourmalines from Mozambique.

It has long been believed that the 45.5 ct Hope diamond was cut from the 69 ct French Blue, which disappeared in 1792 during the French Revolution. A lead cast of the fabled French Blue recently discovered at the Muséum National d'Histoire Naturelle (MNHN) in Paris appears to validate this theory. In “The French Blue and the Hope,” Dr. François Farges of MNHN and coauthors used the cast to create a computer model that sheds new light on the Hope-French Blue connection.

In “Gray-to-Blue-to-Violet Hydrogen-Rich Diamonds from the Argyle Mine, Australia,” Dr. Carolyn van der Bogert leads an investigation of the gemological and spectroscopic features associated with this rare color group. These features can separate Argyle diamonds from goods of similar color that may be treated or synthetic.

PDF copies of this issue are available at www.gia.edu/research-resources/gems-gemology/, a link on GIA's newly revised web site. GIA has introduced a completely new, more powerful, and streamlined Web site at www.gia.edu. The Institute redesigned its Web site to make the massive amount of information and online services available from GIA easier for students, clients, the trade, and the general public to find and use. Their goal is to make the GIA Web site the destination of choice for anyone seeking the best, up-to-date gemological information.

Munsell Color Science Laboratory

25th Anniversary Symposium

The Retrospective and Prospective Views of Color Science

Rochester NY, June 8, 2009



The history of MCSL begins in the early 1980's when the Munsell Color Foundation, Inc. was making plans to dissolve and transfer its assets to a university research program. A proposal was made by RIT to use the assets to establish MCSL as a research laboratory which would be directed by the newly established Richard S. Hunter Professor in Color Science, Appearance, and Technology. MCSL was therefore established in 1983 and an inaugural symposium, "Frontiers in Color Science," was held February 1984 featuring the world's leading experts. Twenty-five years later, MCSL is an internationally recognized leader in color science research, education, and outreach. RIT is celebrating this milestone with another symposium, pairing masters and visionaries along with a summary of MCSL research accomplishments.

The **Retrospective Masters** are:

Robert W. G. Hunt, Kodak Limited (retired) and Visiting Professor at Leeds University will present "*The Wright Trichromator and Color Matching Functions.*"



Alan R. Robertson, National Research Council Canada (retired), "*Color Differences: Past, Present and Future*"



Rolf G. Kuehni, Bayer Corporation (retired) and Adjunct Professor at North Carolina State University, "*Three Attributes: From Newton to Munsell*"



Joy Luke, Studio 231, "*The Munsell Foundation and a Century of Color Research*"

The **Prospective Visionaries** are **James A. Ferwerda**, Rochester Institute of Technology, who will present "*Computer Aided Appearance Design,*" **Nathan Moroney**, Hewlett Packard Laboratories, presenting "*Color Science and Imaging: Future Opportunities,*" and **Mark S. Rea**, Rensselaer Polytechnic Institute, whose talk is titled "*Lighting in the 21st Century: Opportunities and Challenges.*"

Calvin S. McCamy, National Institute of Standards and Technology (retired) and Macbeth Corporation (retired) "*Reflections on a Life in Color*"



The technical sessions will be followed by two informative talks. Mark D. Fairchild and Roy S. Berns, Rochester Institute of Technology, "*Twenty Five Years of Research at the Munsell Color Science Laboratory*" and Mitchell R. Rosen, Rochester Institute of Technology, "*Virtual Tour of the Munsell Color Science Laboratory*"



Program



Inter-Society Color Council 2009 Annual Meeting and Munsell Color Science Laboratory 25th Anniversary Symposium June 7, 2009, Rochester NY

The schedule for the ISCC and MCSL meetings is:

Saturday Evening 6:30 p.m., Icebreaker Reception (Radisson Hotel)

Sunday Meeting Schedule (times may change slightly)

9 -9:30 am	Continental Breakfast (Carlson Lobby)
9:30-Noon	Speaker Presentations (Carlson Auditorium)
Noon - 2:00 pm	Banquet and Annual Meeting (CIMS Building)
2:00-5:30 pm	Speaker Presentations (Carlson Auditorium)
5:30 pm	ISCC Meeting Close

Monday MCSL 25 Anniversary Symposium (speakers)

Tuesday ISCC Board Meeting (Carlson Learning Center)

Speakers for the ISCC program are:

Barbara Martinson, University of Minnesota,
Practice-based Research in Design

Alexander Logvinenko, Glasgow Caledonian
University, *A spherical object-colour space*

Robert Buckley, Xerox and Franziska Frey,
RIT, *Color Imaging in the Cultural Heritage
Community*

James A. Perkins, RIT, *The Use of Color
in Medical Illustration*

Rob Buckley, Xerox, *Image Archiving*

Mark S. Rea and Jean Paul Freyssinier,
RPI/LRC, *A test of a two-measure color render-
ing proposal*

Anders Nilsson, Scandanavian Colour
Institute, *Comparing the steps of NCS and the
Munsell colour order systems using the evolve-
ment of DE formulas*

Brian Gamm, RIT, *Modelling Paper
Fluorescent Behavior*

Michael H. Brill, Datacolor, *Optimal
Pseudocolor and the Longest-Path Problem*

Maria E. Nadal and C. Cameron Miller,
NIST, *Reflectance Factor Measurement Compli-
cations Due to Near Infrared Fluorescence*

Fritz Ebner, Xerox, *What is Sustainability
and how do our actions affect it?*

ISCC has reserved a block of rooms at a special rate at the Radisson Hotel (585-475-1910) close to the RIT campus. For online registration, use the promotional code "0609inters" to get the \$89 rate. In person simply mention the Inter-Society Color Council when you make your reservations. A taxi from the Rochester airport will cost about \$20; the hotel offers a free shuttle. The Radisson is about a 20 minute walk to the conference facility. There will be shuttle busses to the sessions if you prefer to ride. See www.iscc.org for more information or call Dave Wyble, 585-475-7310 or wyble@cis.rit.edu.

COLOR RESEARCH AND APPLICATION

IN THIS ISSUE, June 2009

We open this issue with an article by Boris Oicherman, M. Ronnier Luo, Alan R. Robertson, and Bryan Rigg on the “Adaptation and colour matching of display and surface colours.” In a series of two articles (this being the second) they have described a study into the practical effects of observer metamerism and additivity failures. The first article (Vol 33-5, 2008), was the “Effect of observer metamerism on colour matching of display and surface colours.” Now in this follow-up article they report systematic discrepancies between the observers’ judgments and the prediction of the CIE 1964 Standard Colorimetric Observer. They attribute the discrepancies to post-receptor adaptation mainly of the blue-yellow chromatic channel, and report a framework of an adaptation transform based on the MacLeod-Boynton chromaticity diagram, which can compensate for them without abandoning traditional colorimetry and the use of tristimulus values. Concerning the failure of additivity, they conclude that additivity failures can be predicted, modeled and compensated for by a fairly simple formula based on traditional CIE tristimulus values.

It is well known that even among normal observers, we do not all see colors the same. A pair of colored samples whose reflectance curves differ may match for one observer, but be a significantly mismatching perception to another observer; we call this observer metamerism. In our next article Fernando Carreño, José Miguel Ezquerro, and Jesús Zoido propose an analytical method to determine how color-matching functions influence the perception of chromaticity differences. They examine how small color-differences are dependent upon the characteristic spectral responsivities of the visual system. The variations in the color matching functions will produce variations in the specification of the small color differences. In “Theoretical Considerations on Small Color Differences Ascribed to the Standard Observer Made on the Basis of Individual Color-matching Functions” they provide a method to estimate the degree of metameric mismatch by using information concerning color-difference thresholds together with a software tool for producing metameric spectral distributions. They report that the

differences between matches made by two different observers range from 1.3 to 5.2 CIELAB units, with an average around 2 CIELAB units.

Our next article presents a method to design the relative primary luminances of multi-primary color display. One of the key points in color management systems is the adjustment of the color temperature to control the white point. This adjustment becomes more difficult when there are more than three primaries in the display. Yan Cheng, Xu Liu, and Haifeng Li discuss “The Color Temperature Adjusting Method for Multi-primary Displays Using Non-linear Programming.” The method they present will be useful in the multi-primary color laser projection or multi-primary color LED based backlighting LCD displays.

Generally when it is not possible to match colors by having their spectra match, formulation programs try to improve the match by minimizing metamerism. They look at the colors formulated under two or three illuminants and try to minimize the color differences in each illuminant. In principal component analysis the first principal axis can be interpreted as the direction that maximizes the variation of the projected data. In our next article “Design of Virtual Illuminants to Control the Colors under Multiple Illuminants” Farnaz Agahian, and Seyed Hossein Amirshahi take advantage of principal component analysis to introduce a set of virtual illuminants which represent the most systematic pattern of variation between a dataset which is formed from spectral behavior of selected illuminants. These illuminants can be used in a color control process to lead to more balanced color differences under all illuminants which participate in dataset.

Our next article is the fourth in the series by Antal Nemcsics on the “Experimental determination of laws of color harmony.” In this “Part 4. Color preference and the color harmony content” Dr. Nemcsics reports how he used the collection of color harmony experiments (over 19 years) to study sensation of the color harmony and its intensity. They were found to have a strong relation to how the observers relate to colors and also their color preferences. The sensation of color harmony is also influenced by the gender and the age of the observer. He then introduces an index of the color preference related to the contents of color harmony of different compositions and the personal color preference of

these compositions, based on the assessment of people of different genders and ages.

Our next article is in the textile field. Before I go further, for those not as familiar with the textile field, the authors of our next article explain that Jacquard woven fabrics are made from colored yarns and use different weaves for designing complex pictorial and other patterning effects. The final visualized color effect is the result of assigning weave designs to different areas of the pattern to be created. The usual technique for designing a Jacquard fabric is trial and error. Now Kavita Mathur, David Hinks, Abdel-Fattah M. Seyam, and Alan Donaldson are taking steps "Towards Automation of Color/Weave Selection in Jacquard Design." In their article they report on a geometrical model to predict the color contribution of each yarn on the face of the fabric. The geometrical model combined with a Kubelka-Munk based color mixing model allowed the prediction of the reflectance properties of the final color for a given design.

In "Complementary Colors: Structure of Wavelength Discrimination, Uniform Hue, Spectral Sensitivity, Saturation, Chromatic Adaptation and Induction" Ralph Pridmore presents a comprehensive analysis of the properties of complementary colors in human vision. He explains that the processes involved must be post-receptorial since the RGB peaks demonstrate spectral sharpening and that complementary colors play a significant role in color appearance and not just color matching. Chromatic adaptation which is crucial both in terms of chromatic sensitivity and complementary colors is examined. He discusses how the properties of chromatic mechanisms make it possible to render their outputs "neutral" and equal to that elicited by the illuminant.

Cities can become known for a certain color, but as the authors of our next article point out, the Mediterranean historical city is a chromatically intense city in the old craftsmen districts, characterized by colors that rapidly change with new owners or uses. It is almost always a rapid succession of diverse spaces, randomly distributed throughout the city, differing chromatically according to the buildings of which they are composed. Angela García Codoñer, Jorge Llopis Verdú, Ana Torres Barchino, Ramón Villaplana Guillén, and Juan Serra Lluch in their article, "Colour as a Structural Variable of Historical Urban Form" show that while the predominant chro-

matic ranges vary among cities belonging to different cultures, the chromatic structure of urban spaces follows similar patterns. They can reach these conclusions by compiling results from numerous studies of historic cities throughout the world.

We close this issue with three book reviews and a publication briefly mentioned. John McCann reviewed the book *Color Gamut Mapping* by Jan Morovic. Then we have two reviews of *Luminescent Materials and Applications*, edited by Adrian Kitai, one by David Wyble and the other by Janos Schanda. Also, the new CIE Publication x033 - *Proceedings of Advances in Photometry and Colorimetry* is briefly mentioned.

Ellen C. Carter
Editor, *Color Research and Application*

Coloring Fabric without Dyes

Dyeing is only one way of bringing color to textiles. Advances in nanotechnology offer new alternatives to the traditional dyeing process with an emphasis on physical properties that bring out the color of the fabric without using dyes. So writes Michael Quante in the February 2009 AATCC newsletter which can be found at www.aatcc.org/media/news/archive.htm#back).



Using inspiration from nature, scientists at Tenjin's Morphotex have created colored fabrics by using nanotechnology to build layers of nylon and polyester. In this way the difference in refractive index of the two materials leads to the creation of color through light interference.

Also, Juan Hinstroza and his group at Cornell University's College of Human Ecology's Department of Fiber Science and Apparel Design have added color to fibers by applying metal nanoparticles to cotton and to electrospun nylon fibers. The color created depends on the metal that is used and its size, and shape.

AIC 2009

AIC 2009, the 11th Congress of the International Colour Association, will be held in Sydney, Australia, September 27 – October 2, 2009. The multidisciplinary character of the Congress is reflected in the structure of the program, invited speakers and keynote speakers.

The program topics reflect the multi-dimensional nature of the congress and include: color in nature, color physics – light sources, optics, color chemistry – colorants, dyestuffs and pigments, color vision – physiology, neurology, color measurement, applications of color science – food, medicine, forensics, color imaging – reproduction, management, vision models, color psychology – perception, emotion, color communication – meanings, semiotics, language, color theory – history, philosophy, color in art, design and the built environment, color in textiles, fashion and cosmetics, appearance measurement – surface quality, texture, gloss, and color education.

On Tuesday and Wednesday, the symposium has special themes. On Tuesday the themes are ‘Good’

colors, ‘bad’ colors, humanity and the environment. On Wednesday, the themes are appearance: phenomena and measurement.

The symposium themes have been chosen to promote understanding and cooperation between researchers working in different disciplines. For example, a ‘good’ colour for a chemist might be a paint that provides protection from the elements without fading; for a designer it might be one that communicates an intended message or makes a positive contribution to the appearance of the built environment.

The Congress has Invited several speakers including Karin Fridell Anter, Akiyoshi Kitaoka, Gabi Kigle-Böckler, Paul R. Martin, Roy S. Berns, Justin Marshall ; and Walangari Karntawarra also known as Colin McCormack.

The Congress has also announced the keynote speakers. They are Maria João Durã, and Galen Minah University.

The details of the Congress can be found on their web site, www.aic2009.org/program.asp.

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The editors

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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

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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.

CALENDAR

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

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2009

- May 25-26** **CIE Midterm Meeting 2009**, CIE Central Bureau, organizer, Budapest, Hungary, ciecb@cie.co.at
- May 27-29** **LEDs and Solid State Lighting Conference**, CIE-Hungary, Budapest, Hungary, www.cie.co.at/index_ie.html
- Jun 1-3** **Light and Lighting, CIE Division 1 Meeting**, Budapest, Hungary, www.cie-hungary.hu
- Jun 7** **ISCC 2009 Annual Meeting**, in conjunction with the Munsell Color Science Laboratory Symposium, Rochester, New York 703-318-0263, www.iscc.org
- Jun 8** **Munsell Color Science Laboratory 25th Anniversary Symposium**, Rochester, New York, mcsl.rit.edu
- 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
- Aug 11-14** **CGIV09, Computer Graphics, Imaging and Visualization Conference**, hosted by Tianjin University, Tianjin China, www.graphicslink.co.uk/cgiv09/
- Sep 27-Oct 2** **AIC 11th Congress**, Sydney, Australia, Organizer: Colour Society of Australia, Contact: Nick Harkness, www.aic2009.org
- Sep 29-Oct 1** **Color and Food: From the Farm to the Table, AIC Interim Meeting**, Mar del Plata, Argentina, Organizer: Grupo Argentino del Color, Contact: María L. F. de Mattiello gac@fadu.uba.ar.
- Oct 13-14** **ISCC/CORM Special Topics Conference on Lighting in Art, Commercial and Retail Spaces**, National Institute of Standards and Technology, Gaithersburg, MD, ISCC - 703-318-0263, www.iscc.org; CORM - www.cormusa.org
- Oct 15-16** **CIE-USA and CIE-Canada technical and administrative meetings**, National Institute of Standards and Technology, Gaithersburg, MD
- Oct 18-20** **2009 CAD RETEC**, SPE Color & Appearance Division, Hyatt Regency, Savannah, Georgia, specad.e-xyn.com/index.php?navid=121
- Nov 9-11** **Seventeenth Color Imaging Conference**, The Society for Imaging Science and Technology cosponsored by the Society for Information Display (SID), Albuquerque, New Mexico, 703-642-9090, www.imaging.org
- Nov 15-17** **IES Annual Conference**, Illuminating Engineering Society, Seattle, Washington, www.ies.org

2010

- Jun 14 - 18** **CGIV 2010: 5th European Conference on Colour in Graphics, Imaging, and Vision**, Society for Imaging Science and Technology, Joensuu Yliopisto and University of Eastern Finland, www.imaging.org

ISCC Sustaining Members

Avian Technologies	www.aviantechnologies.com	603-526-2420
BYK-Gardner USA	www.bykgardner.com	301-483-6500
Color Communications, Inc.	www.ccicolor.com	773-638-1400
Datacolor	www.datacolor.com	609-895-7432
Hallmark	www.hallmark.com	816-274-5111
Hewlett-Packard Company	www.hp.com	650-857-6713
Hunter Associates Laboratory, Inc.	www.hunterlab.com	703-471-6870
IsoColor Inc.	www.isocolor.com	201-935-4494
Pantone, Inc.	www.pantone.com	201-935-5500
Xerox Corporation	www.xerox.com	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 \(TAGA\)](#)

2009 Annual Meeting Rochester & MCSL 25th Anniversary Symposium

Unless this is your first ISCC Newsletter, you have seen reminders for this meeting over the last several months. There is also information in this newsletter on pp 6 and 7. The question is, how have you acted on this information? If you are already registered, thanks, and we will see you in June. If you have not yet registered, please consider this meeting as an important part of your professional development for 2009. While we understand the current economic pressures make travel difficult or impossible for many, it is challenging to put a price on the breadth and depth of the ISCC meetings, not to mention networking with your color colleagues. The line up of speakers on Monday represents an historic assembly of color expertise. Also, supporting the ISCC with your attendance will help with the short-term finances as well the long-term strength of the organization. Also, please tell your friends and colleagues about these great meetings.



ISCC 2009 Annual Meeting and Munsell Color Science Laboratory 25th Anniversary Symposium

June 7-8 2009

Rochester Institute of Technology, Rochester, NY
Details at <www.iscc.org/meetings/AM2009/>

Last Name/First Name _____
Badge Name _____
Affiliation _____
Address _____
City _____ State/Prov _____ Country _____ ZIP/Postal Code _____
Tel. (Include Int'l Code) _____
E-Mail _____
Accompanying Person(s) _____

Registration Fees: (USD)

	Members	Non-Members (includes membership)
ISCC Annual Meeting Only	\$275	\$ 325
Includes presentations, poster reception, awards luncheon, breaks, and MCSL Symposium proceedings.		
MCSL Symposium Only	\$275	\$ 275
Includes presentations, evening reception, breaks, and proceedings.		
Both Meetings	\$475	\$ 525
Students	\$100 (Copy of valid student ID must be included)	

Accompanying Person(s) Fees (does not include presentation sessions)

Sunday Awards Luncheon, June 7	\$ 25
Monday MCSL Reception, June 8	\$ 25
Total Amount Due (USD)	\$ _____

Pre-registration Cut-off Date: May 19, 2009. No refunds after this date. On-site registration available.

Payment Method

- Check or money order payable in U.S. Funds on a U.S. Bank to "Inter-Society Color Council"
 Charge to the following credit card: DISC MC VISA AMEX

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Fax: 703-318-0514 Tel: 703-318-0263
isccoffice@cs.com

Hotel Information: We have reserved a block of rooms at a special rate at the Radisson Hotel (585-475-1910) www.radisson.com/hotels/us/ny/henrietta/399, close to the RIT campus. For online registration, use the promotional code "0609inters" to get the \$89 rate. In person simply mention the Inter-Society Color Council when you make your reservations. A taxi from the Rochester airport will cost about \$20. The hotel offers a free shuttle. The Radisson is about a 20 minute walk to the conference facility. There will be shuttle busses to the sessions if you prefer to ride.