



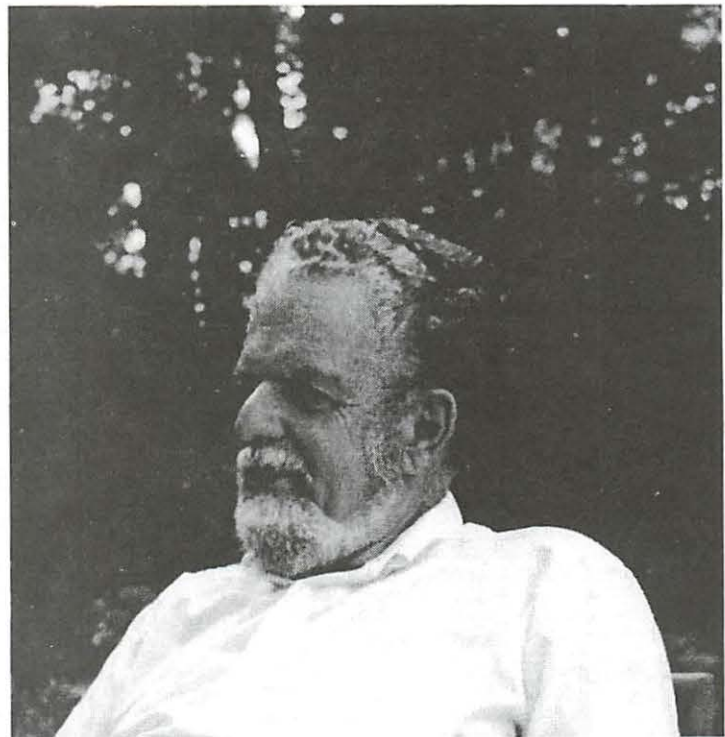
Inter-Society Color Council *News*

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Henry Hemmendinger (April 1, 1915 – August 16, 2003)



Henry Hemmendinger, an eminent authority in color science and standardization, died August 16 at the age of 88 in his home in Princeton, NJ. In his later years he was heard to lament, "Where are the giants in color?" A mirror would have revealed at least one.

Born in Bernardsville, NJ, Henry studied at Harvard and Princeton, from which he received a Ph.D. in astronomy in 1939 under the direction of Henry Norris Russell. His career as a physicist working in color measurement, specification, and control spanned the last half-century, first in a partnership,

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Davidson and Hemmendinger, and later as a consultant operating Hemmendinger Color Lab from his home. He was a widely recognized authority on color science, a member of international committees, and recipient of numerous honors—most recently the Godlove Award from the Inter-Society Color Council and Honorary Membership in the Council. Henry was a member of the American Society for Testing and Materials, a Fellow of the Optical Society of America, and a lifetime member of the U.S. National Committee of the CIE.

Henry's career focused on quantifying performance errors in colorimetry, incurred by photometric equipment and also by human observers. He brought to bear a deep knowledge of how spectral reflectance curves can aid in the formulation of products with desirable appearance attributes. He was also a leader in understanding metamerism, a breakdown in a color match incurred by changing either the illuminant or the observer.

Tirelessly, Henry worked to establish and to publish methods for precision spectrophotometry of reflecting materials. He devoted himself to getting good practice and good standards into the hands of industrial colorimetrists, a task in which his contribution has been compared to that of Deane Judd at the National Bureau of Standards. For many years, he was the sole U. S. supplier of calibrated colored materials used to evaluate the performance of color-measurement instruments. He presented numerous papers on this subject and is a leading expert on spectrophotometric precision and accuracy.

Henry contributed to many technological innovations, especially in collaboration with Hugh Davidson, with whom he founded D&H in 1952. In the 1950s, Davidson and Hemmendinger became pioneers of computer-directed colorant formulation, having developed the colorant-mixture analog computer COMIC, whose lineage is still visible in the world of formulation products. In addition, Davidson and Hemmendinger evaluated the curve shapes for candidate formulations for the Munsell Book of Color, to ensure good color constancy under change of illumination. They used their studies to embody the Munsell system in glossy paint. That was a significant

Continued from page 2

achievement: current embodiments are nowhere near as color-constant. Many photographic products today are designed based on the rules they developed for the glossy Munsell Book of Color. Davidson and Hemmendinger developed the D&H Color Rule, a device to gauge the extent of observer metamerism. This rule is still viewed as indispensable in teaching the principles of observer metamerism.

In 1970, Henry founded the Hemmendinger Color Laboratory (HCL), devoted to the preparation and distribution of spectrophotometric and colorimetric color standards. In 1994 Hugh S. Fairman joined Henry as a partner in HCL, and now operates the company out of Tatamy, PA.

In addition to these contributions, Henry fruitfully combined his areas of expertise. For example, he used metameric pairs as a tool to assess instrument performance.

Colleagues and former employees remember Henry as a decent human being and as a vigorous and generous mentor, freely sharing his knowledge and wisdom. Rigorously honest in his scientific and personal life, Henry always searched for the truth, and when he found it he spoke up—with all due tact but unambiguously.

Besides pursuing scientific work, Henry was a passionate gardener who created a small oasis at his Princeton home, as he had previously done in Belvidere, NJ. He was interested in plant propagation and worked with a local garden club to cultivate the rare blue gentian flower.

Henry's first wife Miriam, a daughter, Carol Selikowitz, and his long-time companion Sylvia Crane predeceased him. He is survived by two brothers, his sons David of Schenectady, NY and Mark of Mill Valley, CA, and by five grandchildren. Henry's family is grateful to friends in the Princeton area who supported him during his illness. The family invites contributions in his name to be made to the Center for Constitutional Rights, 666 Broadway, NY, NY 10012, or The Nature Conservancy, 425 N. Fairfax Drive, Arlington, VA 22203, in honor of his long-standing commitments to social justice and to the environment.

Compiled by Dr. Michael H. Brill, Datacolor

President's Column

Fall is upon us as this Newsletter reaches your desk. Fall is ripe with opportunities for experiencing color. Color is everywhere around us from the fruits in the harvest to changing leaves on the trees. Many of our member bodies hold their annual technical conferences or tradeshow in the fall. This is a good opportunity to see what is new to help you make your color world more accurate or more productive. The annual Color Imaging Conference, held each November in Scottsdale, Arizona provides a special opportunity this year. Dr. R. W. G. Hunt, renown expert on colour reproduction, is giving a 2-day tutorial lecture on the basics of color just prior to the start of the conference. Check out the IS&T web site (www.imaging.org) for full details.

This past August brought more sad news for the color world as we heard of the passing of another pioneer – Dr. Henry Hemmendinger. See the front page story of this ISCC News for a full article on his life and contributions to color science. He was a special mentor to me over the years, visiting him at home many times as we discussed and worked on difficult measurement problems in colorimetry.

Plans are moving ahead for next spring's meeting. As you recall, it will be a joint meeting with the Council on Optical Radiation Measurements (CORM) and will be held in Gaithersburg, Maryland at NIST. The focus of the meeting will be on standards, uncertainty and accuracy in color measurements. You should be hearing shortly from our interest group chairs or poster committee chair about how you can contribute and perhaps justify your attendance. This really will be a great opportunity to see and hear what is being done on a national and international basis to improve the absolute accuracy of color measurements. Please mark your calendars for May 9-14, 2004 for this exciting meeting.

I hope that you are looking forward to the details of the Williamsburg-like meeting at the Fashion Institute of Technology / SUNY in New York in the fall of 2004. The general topic will be color in design

Continued on page 4

and color psychology. The Board of Directors will review the details at our fall meeting in mid-October.

Plans for the IS&T - ISCC symposium in the fall of 2005 after the annual Color Imaging Conference in Scottsdale, Arizona are progressing. John McCann and I will be meeting with the IS&T during the Color Imaging Conference in November. By the time of the December issue of ISCC News most if not all of the details should be available to you so that you can begin planning for this well in advance. Phoenix, Arizona is a fine place to vacation in November with the weather not so hot as summer and with not so many unpredictable downpours as spring.

If there are any other topics related to color measurement or communication that might be of interest to you and your industry drop me a line and I will try to get an interest group or meeting coordinator to put together a program on that topic. See you next May at NIST.

Danny Rich, President of ISCC

Opportunity for Training Fellowship in Conservation Science

The conservation division of the National Gallery of Art, Washington, DC, is offering a fellowship to be supported by the Charles E. Culpeper Foundation. The 3-year fellowship includes an annual stipend and modest travel support.

The fellow is expected to carry out research relevant to the collections of the National Gallery of Art. The fellowship will preferably be directed toward research into the effect of surface roughness on light scattering and of changes in the topography occurring as a result of aging and/or conservation treatments such as cleaning or varnishing, or the fluorescence of works of art under ultraviolet light. Other proposed topics will also be considered.

Applications are due October 20, 2003. For additional information on NGA research programs, see: <http://pubs.acs.org/cen/coverstory/7931/7931art.html>. For more information on the fellowship, email Michael Skalka at m-skalka@nga.gov.

Request for Nominations for Nickerson Service Award

The ISCC 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 its affairs.

If you would like to nominate a person for this award please contact:

Robert Marcus
Datacolor International
5 Princess Road
Lawrenceville, NJ 08648
609-895-7426, 609-895-7438(fax)
rmarcus@datacolor.com

Nominations must be received before
December, 1, 2003.

EPA Announces New Fellowship Opportunities in Research

The U.S. Environmental Protection Agency (EPA) will award approximately 50 new fellowships for research in environmentally related fields of study, primarily to encourage the pursuit of advanced degrees and careers in these fields, according to Dr. Paul Gilman, Science Advisor to EPA's Administrator and the Agency's Assistant Administrator for Research and Development. The awards will be made under the Science to Achieve Results program (STAR). The deadline for preliminary applications is Nov. 20, 2003. Awards from this selection process should be made by July 23, 2004, for the Fall 2004 term. Based on the projected FY 2004 budget, approximately 50 fellowships should be awarded.

Additional information on STAR fellowships is available at: <http://es.epa.gov/ncer/fellow>. Application information can be found at the following web site: http://es.epa.gov/ncer/rfa/current/2004_grad_fellow.html.

Dr. Hunt to Present Color Science and Imaging Course

Dr. Robert W. G. Hunt will present a 2-day special in-depth tutorial course, "Basic Color Science & Imaging," Nov. 3 and 4, 2003 as a part of IS&T/SID's 11th Color Imaging Conference in Scottsdale, AZ. This comprehensive course will cover the principles of color perception, measurement, and reproduction, as applied to photography, television, printing, desktop publishing, and electronic imaging. This class will be two days long, each day comprised of six one-hour lectures with discussion.

Robert Hunt formerly Assistant Director of Research, Kodak Research Laboratories in Harrow, England, is an independent color consultant and visiting Professor of Colour Science at the University of Derby. He has published two books: *The Reproduction of Colour*, now in its fifth edition, and *Measuring Colour*, now in its third edition. Dr. Hunt is a regular contributor of keynote papers at Color Imaging Conferences in Scottsdale.

The course is intended for professional and technical personnel with work assignments requiring knowledge of color science or the technologies of color reproduction.

For additional information on the course, as well as registration information see the following site: <http://www.imaging.org/conferences/cic11/>.

GIA Announces Graduate Gemologist Diploma

The jewelry industry's most prestigious academic credential, the Gemological Institute of America's Graduate Gemologist (GG) diploma, can now be earned for the first time in Hong Kong. GIA has been educating the jewelry industry for more than 70 years. Studying in Hong Kong offers an exciting backdrop for students. It is Asia's largest trading center for diamonds, gems and jewelry.

One of the largest jewelry manufacturing cities in China, Shenzhen, is only 40 minutes from Hong Kong. Trips are also possible to other large cities in China, including Shanghai, Guangzhou and Panyu. GIA Hong Kong is an appealing place for students from countries such as India, Pakistan, Indonesia, and the Philippines.

The six-month GG course begins with a seven-week Diamonds program and concludes with a 19-week Colored Stones program. Students have the opportunity to examine more than 150 diamonds and 1,500 gemstones. They will learn gem identification and jewelry sales techniques from expert instructors. Earning a GG diploma can open the door to positions such as staff gemologist, diamond or colored stone buyer, appraiser, auction house specialist or sales professional. Check www.gia.org for further information.

Harry K. Hammond III

EMU to Offer Short Course On Color

Eastern Michigan University will offer a 3-day course, "Color Technology and Design," Sept 30 – Oct 1, 2003 EMU's Livonia, MI campus. The objectives of the course are to provide fundamentals of visual color match evaluation and of color measurement for industrial color control and color design principles for product marketing.

Students will use a spectrophotometer and portable Macbeth lighting on projects that demonstrate proper lighting, observer testing, objective terminology for color differences and determination of tolerances and analyze measurement data of the same industrial samples to study correlation of visual to measured results. Working in teams, students will learn to design for customer profile, determine observer response to color design and achieve color harmony in the product mix.

The course is intended for laboratory and quality control technicians, salespeople, marketing specialists, designers, color matchers and production supervisors who may work in coatings, plastics and textile industries, auto companies and companies that produce composite assemblies, especially for the automotive industry.

For more information call the program administrator, Mrs. Sandra Tanner at Eastern Michigan University, 734-487-2203, fax: 734-483-0085, or email: sandy.tanner@emich.edu.

Color Research and Application In This Issue, October 2003

Most people working on color issues in industry have received their color training on the job, often from a mentor who passed on very specific and practical information. With the increased pace in job changes, time becomes a limiting factor, constraining both the mentor and the protégé. There must be other ways to develop the same expertise. Our first article is devoted to this topic. In "Teaching Color Theory for Automotive Coatings, A Computer-Based Approach," Mike Henry, Mary Killoran, Patty Monteleone, and Stan Gromek share their experience in developing a self-paced interactive learning system in industry. In the Publications section of this issue, there is also a brief announcement about the PPG learning kit.

While the first article was primarily on the issue of education, the fact that color in automotive coatings is often strongly influenced by the angle of view cannot be ignored. As you will see, this theme of the correlation of appearance attributes and their effect on color permeates the first four articles of this issue though the fields of study are diverse. Each of our first four articles deals with color in industries where angular effects of reflection have an important role: first the automotive coatings industry, then the printing industry, the architectural and building preservation field, and finally art work.

Surface effects change the appearance of materials, thus also affecting the color perception. The authors of our next article examine whether it is possible to separate the geometrical attributes of appearance from the color attributes in printed materials. They examine the colorimetric properties and the angular distribution of reflectance spectra of printed papers - with and without a varnish layer, and of foils - both clear and metalized. Milan Mikula, Michael Čeppan, and Karol Vaško found that it is not only the top or first surface gloss that is important, but also the bottom interface that has an effect. Their analysis and results are reported in "Gloss and Goniospectrometry of Printed Materials."

As I implied earlier, for our next article we will stay with the issue of the surface texture. D. Benavente, F. Martínez-Verdú, A. Bernabéu, V. Viqueira, R.

Fort, M. A. García del Cura, C. Illueca, and S. Ordóñez examine the "Influence of Surface Roughness on Color Changes in Building Stones." While color changes in marble and limestones are usually attributed to the degree of oxidation of the chromophore, polishing also has a significant effect on the color perceived. The authors simulated the weathering process as well as the polishing process in a laboratory environment. This produced a detailed study of the evolution of both color and roughness, which helps explain important aesthetic changes in stone during weathering.

For the final article in this group, we will find out about "The Role of Copper and Silver in the Colouration of Metallic Luster Decorations (Tunisia - 9th Century, Mesopotamia 10th Century and Sicily 16th Century)." In their first approach, authors O. Bobin, M. Schvoerer, C. Ney, M. Rammah, B. Pannequin, E. Cilia Platamone, A. Daoulatli and R. P. Gayraud show the relationship between the proportions of copper and silver and the diffuse color in luster decorations. They also show that there is no relationship between the specular color and the overall concentration of copper and silver.

As the name of this journal implies, we are usually preoccupied with the topic of color, and tend to think it is ubiquitous. However, let us step back for a moment. In architecture and design, prototypes are often presented in white or monochromatic combinations, regardless of the final coloration. Therefore one might ask whether color really is important in relation to space and form and the experience of the place when a design professional is developing a concept for a built environment. Dr. Dianne Smith examines these issues in "Environmental Colouration and/or the Design Process."

Moving to the field of color vision, generally the study of color vision has focused on one eye at a time. However, in recent years there has been an increasing interest in binocular vision. Most often the discussion has focused on the relationship between stereopsis and color. Stereopsis (or stereoscopic vision) is the process where the corresponding points in left and right image result in an impression of depth. When two eyes view the same scene, the images drawn on the retinas differ by a small degree. From these two

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corresponding images and the position of the eyes, the brain creates a sensation of depth. Experimental studies have clarified the relationship between color and stereopsis at equiluminance, however less has been published dealing with other binocular functions. In our next article, J. R. Jiménez, E. Valero, R. G. Anera, J. A. Martínez, and C. Salas report on research examining the "Chromatic Changes in Relation to Binocular Summation Determined with Contrast Thresholds."

Our last two articles deal with black and blue. Let's take blue first. Poor blue constancy is often cited as one of the shortcomings of the CIELAB color system. What does this mean, why and how does this occur? First of all, hue constancy refers to a property of a color space where a constant hue angle as described in that particular space remains in the same color category. In other words, moving along a hue angle in the blue region, color specimens would continue to look the same blue, not more or less purple. In our next article, Nathan Moroney discusses "A Hypothesis Regarding the Poor Blue Constancy of CIELAB." In this article he describes the issues, examines the use of sharpened sensors, and the choice of other fundamentals. He proposes that the specific problem lies in the choice of color matching functions, more specifically within the secondary lobe of the x-bar function.

Black is black; the absence of light; no color; right? Not necessarily! On displays it is quite common for light to be emitted even in parts of the image field where one expects black. Correcting for the black level is important for characterizing and calibrating color monitors. This is especially true when one intends to use displayed colors of very low luminance that approach the display's black level. However, measuring low levels of light emission precisely and accurately can be difficult. Thus our next article, "Estimating Black Level Emissions of Computer-controlled Displays" takes a different approach. Roy S. Berns, Scot R. Fernandez, and Lawrence Taplin describe a straightforward and highly utilitarian method for estimating the tristimulus values of non-zero off states in color monitors, in other words the black level.

We close this issue with two book reviews, a report on the Fall Vision Meeting, and mention of a couple of other publications. In our first review Zoltán

Jakab discusses Michael Tye's book, *Consciousness, Color and Content*. Next C. L. Hardin reviews *Vision and Mind: Selected Readings in the Philosophy of Perception* edited by Noë and Thompson. A special collection (published in German) of Werner Spillmann's materials related to *Color Scales, Color Circles, and Color Systems* is briefly described. Also described the PPG's *Color Theory for Automotive Coatings*. Finally, Helen Smithson reports on the 2002 Fall Vision Meeting held in cooperation with the Optical Society of America.

Ellen Carter, Editor,
Color Research and Application

Hawkmoths See Colors by Starlight

As reported in the November 30, 2002 Science News, scientists now have evidence that an animal can see color by starlight. Human beings cannot distinguish colors in such dim light, but hawkmoths passed night-time hue recognition tests with flying colors. Almut Kelber of Lund University in Sweden selected the *Deilephila elpenor* hawkmoth as his test subject since it collects its nectar in the darkest hours of the night in Europe.

The researchers started by training the moths to associate yellow or blue fake flowers with a supply of sugar water. Once the blue and yellow plastic plants were placed among other colored fake flowers, the moths had no difficulty in selecting the original colored flowers the majority of the time, even in the dimmest starlight.

In order to make sure that the moths were actually seeing color and not just making distinctions of darkness and lightness, the researchers offered a variety of flower colors, including light and dark variations of the same color. The moths usually did not show any interest in the flowers that were the wrong hue, but did pay attention to the alternative versions of the hue they had been trained to seek.

The moths even showed a propensity to compensate for differences in illumination. Moths trained to seek green flowers always found the green flowers and avoided the turquoise flowers, even though an orange light source made the turquoise look green to the human eye.

From Spring 2003, *ColorByte™*
by Roland L. Connelly, Sr.

ICE 2003 - "Spirit of Innovation"

International Coatings Expo 2003 celebrates the newest innovations revolutionizing the paint and coatings, printing inks, adhesives, sealants and caulks, and construction chemical industries, Nov 12-14, Pennsylvania Convention Center, Philadelphia, PA. ICE 2003 will feature the products and services of over 250 supplier companies, presenting the latest in raw materials, laboratory apparatus and testing equipment, production equipment, and services. Top technical and sales staffs will be available to discuss industry advances and to help you find solutions to problems. The new floor plan and list of exhibitors is available at <http://www.coatingstech.org/Programs/ICE.html>.

Highlights of the 2003 convention include Exhibitor Spotlights, Poster Sessions, and the new Philly Block Party—an exciting networking reception to be held on the show floor on Wednesday evening. In addition to the opportunities presented at the Expo, a variety of focused Educational Programs will be geared to the theme, "Spirit of Innovation," in critical areas related to coatings, inks, and adhesives through The International Coatings Technology Conference that will be held prior to the Expo. It will offer 15 training courses and workshops to help meet the needs of a changing industry. ICTC course topics include Emulsion Polymerization, Principles of Paint Formulation, Pigment Properties, and Nanotechnology. The flexible schedule features half-day, as well as one- and two-day programs. Separate registration is required, and some courses may be limited in attendance.

The FSCT Annual Meeting Program, offered in conjunction with ICE, features thematic sessions covering a wide range of topics critical to coatings, inks, and adhesives. Nearly 50 paper presentations will be given by leading names in coatings research in such areas as compliant technologies, corrosion, radiation and UV cure, analytical methods, formulations, and TiO₂.

If you would like an expo brochure or other information, contact FSCT at 492 Norristown Rd., Blue Bell, PA 19422-2350; 610-940-0777; fax: 610-940-0292; or email fsct@coatingstech.org. You may also register for all ICE events and reserve hotel accommodations online. The web address is <http://www.coatingstech.org/Programs/ICE.html>.

Report of Activities of The Environmental Color Design Study Group, AIC Midterm Meeting, Bangkok, Thailand

The AIC congress was attended by 144 persons from 17 countries; there were a total of 56 oral presentations, 43 posters, and 16 commercial exhibitors. The Judd Award, that the AIC gives every two years, in coincidence with the full congresses and the midterm meetings, was received by Mitsuo Ikeda (Japan). His lecture dealt with "Color appearance explained, predicted and confirmed by the concept of recognized visual space of illumination, RVSI." The AIC Newsletter No. 17 (to be posted on the web, www.aic-color.org) will have a biographical note about professor Ikeda.

The following subjects were addressed in oral and poster sessions: color management, colorimetry and color vision, color imaging, color communication, environmental color design, color and emotion, and color perception of the elderly. The invited lectures were: "Color management on the fly-embedding color control in printing devices," by Stefan Bruees; "Development of color appearance models", by Ming Ronnier Luo; "Numerical expression of color emotion and its application," by Tetsuya Sato et al.; "Renormalization of color mechanisms across the life span," by John S. Werner et al. A special lecture on "Color in Thai small puppet art" was also presented.

The proceedings were published in advance, compiled by Aran Hansuebsai in a book of 453 pages. A printed copy can be obtained by writing to Aran Hansuebsai, aran@sc.chula.ac.th.

Two of the four study groups of the AIC held meetings: Environmental Color Design, and Color Perception of the Elderly. In the ECD session, chaired by Leo Oberascher, five papers and four posters were presented. Persons that presented papers or posters in Bangkok, and are not members of the ECD Study Group are invited to become members (the list is at www.fadu.uba.ar/sicyt/color/ecd.htm). Contact Jose Caivano, jcaivano@fadu.uba.ar.

IS&T/SID's 11th Color Imaging Conference Color Science, Systems & Applications

The 11th CIC conference is scheduled for November 4-7, 2003 at the Sunburst Resort in Scottsdale, Arizona. The range of professional areas represented will include: color science, color engineering, image processing, color reproduction, color printing, color displays, digital photography, image capture (color, multi-spectral, high dynamic range), color image quality analysis, visualization in color, color in computer graphics, psychophysics concerning human color vision, optical physics, color in systems engineering, and software and hardware development for color systems. In addition, submissions in the area of color in new display technologies are invited.

Keynote presentations by three exceptional and well known experts have already been confirmed:

"The Importance of Being Not Too Earnest" by *Dr. R.W.G. Hunt*, Color Consultant, England

"Image Reproduction: An Oxymoron" by *Dr. Reiner Eschbach*, Xerox Corporation

"Computational Mechanisms of Human Color Constancy" by *Prof. David Brainard*, University of Pennsylvania

In addition, an evening talk will be presented by *David G. Stork* **"Did the great masters 'cheat' using optics? The mysterious rise in naturalism in Renaissance painting."**

New this year, the interactive sessions will be enhanced with oral "spotlight" talks. The idea is for the interactive session to combine attractive features of both oral and poster presentations. Authors of papers in the interactive session will present two-minute oral previews during the regular oral session followed later by discussion at a poster. The latter setting provides an excellent opportunity for one-on-one interaction and informal networking with colleagues and friends.

Generally, the International Color Consortium (ICC) and CIE standards committees hold meetings in conjunction with this conference.

See <http://www.imaging.org/conferences/cic11/> for more information.

AIC Colour 01 Symposia Videos -- Order Information and Form

All AIC Colour 01 meeting symposia were recorded, and videos are now available in NTSC and PAL format VHS tapes. The symposia included in the packages are:

- What is Color?
- The State of the Art and
- Role of Color in the 3-D World
- How Should We Teach Color?
- The Artist and Digital Media
- How is CIE Helping Us Make Color Work?
- What is Color For?
- Color Issues for Digital Future of Color Management Archives
- Environmental Color Design
- Spectral Imaging
- The Future of Color

The videos were digitally mastered and fully edited. They also include important discussions and papers that were NOT included in the AIC Color 01 Proceedings.

Please specify the package wanted. Note, there is an additional cost of \$50 for PAL tapes. Shipping costs within the US are \$6.50, \$8 for Canada & Mexico and \$10 for all other countries. The video package includes four VHS tapes. Place an X next to the package you are interested in purchasing. No orders will be processed until payment is received for both the package and shipping.

NTSC Video Package:

- ___ for U.S. Residents -- \$106.50
 ___ for Canada & Mexico Residents -- \$108.00
 ___ for Residents of all other countries -- \$110.00

PAL Video Package:

- ___ for U.S. Residents -- \$156.50
 ___ for Canada & Mexico Residents -- \$158.00
 ___ for Residents of all other countries -- \$160.00

Checks are acceptable, but must be drawn on a US bank and be in US dollars. We also accept Visa, Discover, Master Card or American Express. Please send payment to:
 Cynthia Sturke, ISCC Office Manager
 11491 Sunset Hills Road, Reston, VA 20190
 Tel: 703-318-0263 FAX: 703-318-0514
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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
***iscc@compuserve.com* website: <http://www.iscc.org>**

2003

- Sept 8-9** UMIST Visual Sciences Lab Conference, "LIMITS OF VISION - Space, Time and Colour", Manchester, United Kingdom, info@limits.org.uk
- Sept 9-12** AATCC's 2003 International Conference & Exhibition, Palmetto Expo Center in Greenville, SC. See <http://www.aatcc.org/ice/c2c.cfm> for more information.
- Sept 11** Detroit Colour Council Panel Discussion, Instrument Fair and Education Session on Color Measurement of Automotive Parts, www.detroitcc.org
- Sept 18-19** The Color Association of the United States, Inc., "Coloring the Future," 315 W. 39th St., Studio 507, New York, NY 10018 www.colorassociation.com
- Sept 18-19** CMG's Canadian Regional Meeting Toronto, Canada, www.colormarketing.org
- Sept 30-Oct 1** EMU Color Technology and Design Course, Fundamentals of Color, Eastern Michigan University, Livonia Campus - Livonia, MI. For more information, call or email Sandy Tanner, (734) 487- 2203 - sandy.tanner@emich.edu
- Oct 5-9** Optical Society of America , 87th Annual Meeting, Hilton Tucson El Conquistador, Tucson, Arizona
- Oct 9-11** Colour Society of Australia, "Colour Communication 03", Melbourne Australia. Contact: Derek Grantham, derek@cathaypigments.com.au.
- Oct 12-14** Society of Plastic Engineers/Color and Appearance Division, 2003 Color & Appearance RETEC, Crowne Plaza Ravinia, Atlanta, GA www.specad.org.
- Oct 15-17** National Printing Ink Research Institute (NPIRI) 2003 Technical Conference in Laguna Cliffs Marriott Dana Point CA.
- Oct 24-25** CIE/USA and CIE/Canada Joint Annual Meeting, Montreal, Canada
- Nov 1-4** CMG's Fall International Conference San Francisco, Calif. www.colormarketing.org
- Nov 13** Automotive Color and Design over the Decades, Detroit Colour Council Meeting, www.detroitcc.org
- Nov 4-7** Eleventh Color Imaging Conference, Scottsdale AZ, www.imaging.org/conferences/cic11/
- Nov 12-14** FSCTs Annual Meeting and International Coatings Exposition, "Spirit of Innovation," Pennsylvania Convention Center, Philadelphia, PA, www.coatingstech.org

2004

- Jan 12-14** ASTM E12 Color and Appearance Meeting/Housing: Embassy Suites Hotel, Ft. Lauderdale, FL, in conj. with D01/G03, www.astm.org
- Jan 18-24** IS&T/SPIE Electronic Imaging Conference 2004, San Jose Marriott and San Jose Convention Center San Jose, California USA, www.electronicimaging.org
- March 28- 31** 2004 NAPIM Annual Convention, LaQuinta Resort, LaQuinta, CA <http://www.napim.org/>
- Apr 5-8** CGIV 2004 - Second European Conference on Color in Graphics Imaging and Vision, Technology Center AFIT, Aachen, Germany, www.imaging.org/conferences/cgiv2004/

Calendar (Cont.)

- April 18-21** TAGA/IS&T 2004 San Antonio, Hyatt Regency Riverwalk Hotel, San Antonio, TX, Contact: TAGA at 585-475-7470, <http://www.taga.org>
- April 20-22** Color Pigments Manufacturers Association, Inc., "International Color Pigments Conference," Chicago, Ill. Contact CPMA, P.O. Box 20839, Alexandria, VA 22314; email cpma@cpma.com
- April 25-29** Society of Plastic Engineers/Color and Appearance Division, Chicago ANTEC, Navy Pier, Chicago, IL, www.specad.org
- May 10-14** ISCC Annual Meeting and Symposium, Co-sponsored by ISCC and NIST, National Institute of Standards and Technology, Gaithersburg, MD. ISCC meeting will be May 10 and 11; May 12 will be joint meetings with tour of NIST laboratories; and May 13 and May 14 will be the CORM meeting.
- May 17-19** ASTM E12 Color and Appearance Meeting, Gaithersburg, MD
- May 23-28** ASPRS 2004 Annual Conference, "Mountains of Data — Peak Decisions," Adam's Mark Hotel, Denver Colorado, <http://www.asprs.org/denver2004>
- May 23-28** SID International Symposium 2004, Seattle, WA, <http://www.sid.org/conf/conf.html>
- July 25-28** IESNA Annual Conference, Illumination Engineering Society of North America, Marriott Waterside Hotel, Tampa, Fl <http://www.iesna.org/>
- Sept. 15-17** CIE Expert Symposium on Image Acquisition and Display, Budapest, Hungary

Web's Favorite Color

From the New York Times, August 38, 2003, the Web's favorite color according to www.favcol.com is a sort of middling mauve and displayed as their background color. The color is gleaned from submissions from visitors who send in photos of their favorite color by e-mail or camera phone. Matt Webb, Web designer, is quoted as saying, "Everyone's colors are mixed together to get the favorite." Colored bars representing the spectrum are displayed across the top of the page. The higher the bar the more popular the hue.

If you take part, you are advised to send in bright close-ups, or your chose color will be dimmed rather than emphasized.

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, Editor, papers given at technical sessions \$75*

*Plus shipping and handling

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 ad
- \$ 250 1/4 page ad
- \$ 500 1/2 page ad
- \$1,000 full page ad

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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Sept/Oct2003

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All submissions must be in English. Please note that the submission of materials is due the first of each even numbered month. Materials submitted later will be printed in the following issue.

ISCC Sustaining Members

Barr Associates, Inc.	<i>www.barrassociates.com</i>	978-692-7513
BYK-Gardner USA	<i>www.bykgardner.com</i>	301-483-6500
Ciba Specialty Chemicals	<i>www.cibasc.com</i>	302-633-2042
Color Communications, Inc.	<i>www.ccicolor.com</i>	773-638-1400
DuPont Performance Coatings	<i>www.dupont.com</i>	248-583-8345
Flex Products, Inc.	<i>www.colorshift.com</i>	707-525-7337
GretagMacbeth, LLC	<i>www.gretagmacbeth.com</i>	800-622-2384
Hewlett-Packard Company	<i>www.hp.com</i>	650-857-6713
Hunter Associates Laboratory, Inc.	<i>www.hunterlab.com</i>	703-471-6870
Labsphere, Inc.	<i>www.labsphere.com</i>	603-927-4266
Minolta Corporation	<i>www.minoltainstruments.com</i>	201-529-6055
Pantone, Inc.	<i>www.pantone.com</i>	201-935-5500
PPG Industries, Inc.	<i>www.ppg.com</i>	724-274-3532
Prime-Color, Inc.	<i>watprime@hotmail.com</i>	908-272-5759
SPC Software	<i>www.spc-software.com</i>	+33-1-4784-0066

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)
 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)
 Technical Association of the Pulp and Paper Industry (TAPPI)

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