



Inter-Society Color Council News

Issue 426 Contents

Mar/Apr 2007

2007 Godlove Award and Lecture:	
Dr. Robert W.G. Hunt	1
Measurement Course on Photometry, Radiometry and Colorimetry	2
David R. Wyble, 2007 Nickerson Award Recipient	3
HUE ANGLES: The Perils of Selling Computer Color Matching Systems in the Early Years	3
ISCC 2007 Ballot	4
Student Travel Grants	4
MEMBERS' NEWS	
CIC15: Call for Papers	5
Colorefresh	5
Display Week: SID 2007	5
The DCC Color Technology Course	5
Archiving 2007	8
TAGA's Annual Technical Conference ..	8
ISCC 2007 ANNUAL MEETING PROGRAM	
About Kansas City	7
Color Research and Application In This Issue, April 2007	8
President's Column	9
CALENDAR	10
Color Scientist Position Available	11
Publications Available from	
ISCC Office	11
ISCC Sustaining Members	12
ISCC Member Bodies	12
ISCC News Editor	12
2007 Annual Meeting Registration Form ..	13
2007 ISCC Ballot Form	14

2007 Godlove Award and Lecture: Dr. Robert W.G. Hunt

At this year's ISCC Annual Meeting, Dr. Robert Hunt will receive the 2007 Godlove Award, honoring him for his long-term contributions to the field of color. Bob has had a long and distinguished career in color, having been active in the field in a career that has spanned seven decades. Over that time, he has compiled an extraordinary record of contributions.



Dr. Robert W. G. Hunt

It is difficult to pick out a single area from among the many he has contributed to over the years. Everyone undoubtedly has their own list of work they found particularly memorable or significant. Many of those lists would include his surprising recreation of Maxwell's demonstration of color photography, his characterization of the objectives of color reproduction, which is still applicable today, or his dramatic examples of the effects of chromatic adaptation in darkened lecture halls.

One area in which his contributions have received considerable attention is color appearance. Bob has been a long-term and seminal contributor to this area, one of the most significant areas of research in the field of color over the last two decades. Bob has published in this area since the 1960's and his work on color appearance can be traced to even earlier investigations of chromatic adaptation.

What was known as the "Hunt model" led directly to the first CIE color appearance model, CIECAM97s, developed by CIE TC1-34, of which Bob was a member. Bob was also a member of CIE TC8-01, which developed the follow-on CIECAM02 color appearance model, now being used in color management products.

The Godlove Award also recognizes his outstanding dissemination of knowledge of color by writing or lecturing. Bob has influenced

Continued on page 2

ISCC EXECUTIVE OFFICERS

President	<i>Dr. Robert Buckley</i> Xerox Corporation MS 0128-30E 800 Phillips Road Webster, NY 14580 585-422-1282 fax: 585-265-7441 Robert.Buckley@xeroxlabs.com
President-Elect	<i>Dr. Maria Nadal</i> Nat'l Inst. of Standards and Technology 100 Bureau Drive, Stop 8442 Gaithersburg, MD 20899-8442 301-975-4632 fax: 301-869-5700 maria.nadal@nist.gov
Secretary	<i>Mr. Jack Ladson</i> Color Science Consultancy 1000 Plowshare Road, B-1, Yardly, PA 19067 215-369-5005 fax: 215-369-3316 jack.ladson@verizon.net
Treasurer	<i>Mr. Hugh Fairman</i> 503 Bradley Court, Princeton, NJ 08540 609-430-1630 fax: 609-4301618 resourceiii@erols.com
Past-President	<i>Dr. Joanne C. Zwinkels</i> National Research Council of Canada M-36, Montreal Road Ottawa, ON K1A 0R6 Canada 613-993-9363 fax: 613-952-1394 joanne.zwinkels@nrc-cnrc.gc.ca

ISCC BOARD OF DIRECTORS**2004-2007**

Ms. Britt Nordby	Degussa Corporation 379 Interpace Parkway Parsippany, NJ 07054 USA 973-541-8918 fax: 973-541-8942 britt.nordby@degussa.com
Dr. Frank O'Donnell	The Sherwin Williams Co. 601 Canal Street, Cleveland, CA44113 216-515-4810 fax: 216-515-4694 fxodonnell@sherwin.com
Dr. Michael Vrhel	PageMark Technology 23610 NE 6th Street Sammamish WA 98074 425-894-0585 michael@pagemarktechnology.com

2005-2008

Mr. Nurhan Becidyan	United Mineral & Chemical Corp. 1100 Valley Brook Avenue Lyndhurst, NJ 07071 201-507-3300 fax: 201-507-1506 anbecidyan@umccorp.com
Mr. Jerald A. Dimas	Color Communications, Inc. 4000 West Fillmore Street Chicago, IL 60624 773-638-1400 fax: 773-638-5718 jerdim@ccicolor.com
Mr. Stephen Glasscock	Hallmark Cards, Inc. 2501 McGee Kansas City, MO 64108 816-274-4457 fax: 816-274-3867 sglass1@hallmark.com

2006-2009

Ms. Sandra Austin	Horticolour 5803 New England Woods Dr. Burke, VA 22015 703-250-6031 ksajr@cox.net
Mr. Scot R. Fernandez	Hallmark Card, Inc. 2501 McGee Kansas City, MO 64141 816-545-2462 fax: 816-274-7367 sferna2@hallmark.com
Mr. James Roberts	BYK-Gardner USA 9104 Columbia Road, Columbia, MD 21046 301-483-6500x7288 fax: 301-483-6555 jim.roberts@altanachemie.com

multiple generations of color scientists, engineers and technologists with his book "The Reproduction of Color," originally published in 1957 and now in its sixth edition, issued in 2004 by John Wiley & Sons, an astonishing record for anyone. His other book, "Measuring Colour," originally published in 1987, is now in its third edition.

He has also influenced the latest generation of color imaging specialists through his association with the IS&T/SID Color Imaging Conference since its inception in 1993. He was a keynote speaker at every conference from 1995 to 2003, and at the last three has taught a two-day course on Basic Color Science and Imaging. The conference and its attendees have benefited and continue to benefit from Bob's contributions and expertise.

Bob spent most of his career with Kodak Research Laboratories at Harrow in England. His research at Kodak led to major advances in the understanding of chromatic adaptation and of observer's color preferences under different viewing conditions and across different media. He was Chairman of the Colorimetry Committee of the CIE from 1975 to 1983 and President of the AIC from 1981 to 1985.

The Godlove Award is truly a fitting recognition for Robert Hunt's extraordinary and influential career in the field of color. Established by Mrs. Margaret N. Godlove in memory of her husband, Dr. I. H. Godlove, the Godlove Award is the Council's most prestigious award. It will be presented to Bob at the Awards Luncheon on April 30, to be followed by a keynote address entitled "CIE Colorimetry: Past, Present and Future," which intertwines the history of CIE Colorimetry with the contributions of Godlove Award winners.

Robert Buckley

Ellen Carter

Lou Silverstein

Lindsay MacDonald

Measurement Course on Photometry, Radiometry and Colorimetry

The National Research Council of Canada will offer the measurement course "Photometry, Radiometry and Colorimetry" April 17-20 at NRC in Ottawa, Ontario, Canada. The course is one of a series of courses presented by the NRC Institute for National Measurement Standards concerning the measurement of basic physical quantities where recent developments in instrumentation, standards and procedures are highlighted. This four-day course covers the basic principles of photometric, radiometric and spectrophotometric calibration, uncertainty estimation, applications such as industrial colorimetry and video displays, and special topics such as LED measurement issues, absolute radiometry, gloss, gonio-colorimetric and fluorescence measurements. The course program includes tours of the NRC Photometry and Radiometry Group labs, an exhibition of photometric, radiometric and colorimetric equipment from various manufacturers and video demonstrations of selected laboratory procedures.

For a registration form and further details please see inms-ienm.nrc-cnrc.gc.ca/courses/courses_e.html.

David R. Wyble, 2007 Nickerson Award Recipient

Dave Wyble is an Associate Scientist at the Munsell Color Science Laboratory at the Rochester Institute of Technology. His responsibilities within the Munsell Lab center on maintaining the instrument and computing facilities. The instruments include an extensive array of devices designed to measure various aspects of color. He also maintains a research presence in the laboratory; his main interests are color measurement and device characterization.



David R. Wyble

Within the Center for Imaging Science, he is responsible for teaching the first year color science graduate course, Color Measurement I. For four years, he also was responsible for the undergraduate course Programming for Imaging Science I, and later designed and taught the follow-on course Programming for Imaging Science II. He has also taught the graduate course Programming for Imaging Scientists.

Dave received an M.S. in Color Science from the Rochester Institute of Technology and a B.S. in Computer Science from SUNY College at Brockport, 1992. In 2007, he received his Ph. D. from Chiba University, Japan. Prior to joining the Munsell Lab, he spent the previous 15 years in Corporate Research and Technology at Xerox Corp. During his time there, he was involved in xerographic technology development and system simulation and modeling. He still has an interest in these areas, and much of his current work involves various aspects of color modeling.

He is a member of the Society for Imaging Science and Technology (IS&T), and Council of Optical Radiation Measurements. He is the author or coauthor of about 10 publications, has presented papers at many recent color-related meetings and has 2 patents.

Within ISCC, Dave is recognized for his outstanding long-term contributions toward the advancement of the ISCC, particularly as webmaster, and more recently as vice-chair of Interest Group I.

**ISCC hopes to see you in
Kansas City, April 29-30
for the 2007 ISCC Annual Meeting**

HUE ANGLES

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

Ralph Stanziola, a guru of practical color science, teaches short courses accented by lively stories. Once, solely from a product's spectrophotometric curve, he tells of detecting an ingredient that was unknown even to the manufacturer, but had entered the product through the air from a chemical plant across the street! Here, Ralph shares a different kind of story.

The Perils of Selling Computer Color Matching Systems in the Early Years

In 1962 I started working for Davidson & Hemmendinger Inc. of Easton, PA. My job was to sell and teach customers how to use the D&H Colorant Mixture Computer (COMIC). The COMIC was an analog computer that solved a series of simultaneous equations using Kubelka-Munk logic.

During my first 4 or 5 years at D&H, I was selling not only hardware but also a concept. With most interested companies, especially in textiles, to prove that the COMIC approach would work, a test was necessary using the dyes and fabrics that were normally part of the company's operation. Usually the people involved in the test were the same people using visual techniques to match colors. Because there was a misconception that computer color matching would replace them, some people involved in the test would purposely add the wrong amount of one or all of the dyes that COMIC suggested was needed to match the target. Fortunately, in most cases, the laboratory people making the test dyeing did not keep a record of the wrong amount of dye used in the first shot sample. When a repeat dyeing was requested, the second sample did not match the first. With a little push in the right direction, management would realize what was going on, and a legitimate test would follow.

One morning after returning from a trip, I was in my office catching up on my mail. While reading the latest issue of the AATCC magazine, I read an article about a new yarn package dyeing plant starting operations in Mooresville, NC. I wrote a letter to the plant addressed to the technical director. I suggested that, for the new plant, they should consider this new technology for color matching. After about two weeks I received a reply from the technical director, who invited me to visit his plant in North Carolina.

I flew to Charlotte, NC and drove north to Mooresville. The plant was built on the side of a hill, so that the parking lot was beside the top floor of the building. There was still a lot of construction material, broken bricks, and cinder blocks etc. spread around the hill. I had a very pleasant meeting with the technical director spending more than an hour explaining the COMIC concept. The technical director asked me to meet with their head dyer and go over much of the same material with him. We went down to the dye house on the ground floor. A man well over 6 feet tall and weighing over 300 pounds, with hands the size of hams, was standing next to a large

Continued on page 5

ISCC 2007 Ballot

Following are biographies of the candidates for the Board of Directors of the ISCC. All members of the ISCC have an opportunity to vote for three directors. Members have until April 26, 2007 to return their ballot to the ISCC Office, by email (isscoffice@cs.com), fax or mail. A ballot is enclosed with this newsletter. The fax numbers and mail address are below in the footer.

Office of Director (2007-2010)

David Hinks: David Hinks received a B.Sc. degree in Color Chemistry from the University of Leeds in the United Kingdom in 1989, and a Ph.D. in Color Chemistry from the same university in 1993. In 1993, he moved to North Carolina State University as a Post Doctoral Research Fellow, and later Visiting Assistant Professor, where he investigated and co-patented a series of non-genotoxic pigments. In 1996, he joined Milliken & Co. in Spartanburg, SC, USA, as an R&D Chemist. He returned to NC State University in 1998 as an Assistant Professor, where he teaches color science, dyeing and finishing. His current research interests include lighting variability and color constancy, dye synthesis and modeling, and novel dyestuff applications.

He is a recent past chair and secretary of the American Association of Textile Chemists and Colorists' Color Measurement and Test Methods Committee (RA36). He is also the current convener of Working Group 7 on Color Measurement in the International Standards Organization, TC38/SC1. Since 1999, he has served as Academic Editor for the Society of Dyers and Colourists in the United Kingdom. He received the NCSU Outstanding Teaching Award in 2002 and was promoted to Associate Professor in 2003. He is currently the Program Director of a new degree within the College of Textiles at NCSU, called *Polymer and Color Chemistry*. He has more than 60 peer-reviewed and conference papers and two patents in the area of color science and chemistry.

Cameron Miller: Cameron Miller is a research chemist with the National Institute of Standards and Technology in the United States. He obtained his PhD in Physical Chemistry from Cornell University (1994) studying unimolecular energy transfer using high resolution infrared optothermal spectroscopy. He joined NIST in 1996, to work in the fields of Photometry and Retroreflection and in 2003 was appointed the Photometry Project Leader. His research areas include all aspects of photometry, retroreflection, measurement uncertainty and vision science applied to lighting such as development of a new color rendering index and the intensity perception of flashing lights.

Cameron is active in standards organization and committees, such as CIE, ANSI, and ASTM, and professional

societies such as ISCC, NEMA, and CORM. He is also involved in the National Voluntary Laboratory Accreditation Program as an assessor and developer of the Energy Efficient Lighting Program and the Energy Efficient Solid State Lighting Program.

Barbara Parker: Barbara Parker is the Color Designer at JDSU - Flex Products Group in Santa Rosa, California. Her background includes over 20 years experience in the paint and pigment industries, with 7 years in industrial coatings with The Glidden Company in Cleveland, Ohio and over 6 years in automotive coatings with DuPont Automotive Products in Detroit, Michigan. She is a member of the Detroit Colour Council and a board member of the Color and Appearance division of the Society of Plastics Engineers. Barbara is a graduate of Cleveland State University with an MS degree in chemistry; her undergraduate studies in chemistry were completed at Muskingum College in New Concord, OH.

HUE ANGLES

Continued from page 3

package-dyeing machine. He was the head dyer. After the technical director introduced him to me, the dyer said, "Oh, this is the Yankee who came down here to tell me about a machine that will replace me." After I explained that was not the case, he said, "Come on boy—it's too noisy here to talk." He put his arm around and directed me (not too gently) towards a gray door at one end of the dye machine area. I assumed it was his office. It wasn't. He pushed me out the door. I found myself outside at the bottom of the hill, and had to crawl on my hands and knees to get back to the parking lot and my rental car. I assumed he wasn't interested.

Long after that dyer was gone and I was working for Applied Color Systems, I went back to that plant to install an ACS digital color matching system.

Ralph Stanziola

It ain't over till it's over.

Yogi Berra

Student Travel Grants ISCC 2007 Annual Meeting

The ISCC Education Committee is providing a limited number of student travel grants to assist students traveling to the ISCC 2007 Annual Meeting. Students must submit a letter of recommendation from their supervisor including affirmation that they are a full-time student, and an estimate of their travel costs. Deadline for applying to this program has been extended to March 20, 2007. Applications should be sent or emailed to the ISCC Office in c/o Cynthia J. Sturke, Office Manager, at the addresses in the footer below. Students will be informed of ISCC travel support by March 23, 2007.

MEMBERS' NEWS

CIC15: Call for Papers

This year's IS&T/SID Color Imaging Conference (CIC) will be held in Albuquerque, New Mexico from November 5-9, 2007. Since its conception 14 years ago, CIC has been a showcase of the latest advances in color imaging science and engineering.

Original technical papers are invited in four areas:

- Scientific Disciplines
- Color Image Synthesis/Analysis/Processing
- Engineering disciplines, and
- Applications.

Work on a relevant topic should be submitted in the form of a draft paper by April 15, 2007. Papers should represent unpublished work, provide a clear indication of novelty, contain at least preliminary results and include references to prior work. Final papers in electronic form will be due September 5, 2007. Submission inquiries should be directed to Felecia Marsh, 703-642-9090 or color@imaging.org. Further information on the meeting and call for papers can be found at www.imaging.org/conferences/CIC15.

CIC15 Special Features will address the use of color in medical imaging and offer a one day ICCDevCon 07 meeting prior to the CIC15 conference. The color conference this year is soliciting papers that deal with the requirements and specifications for the rendering devices, hard or soft copy, and issues related to the presentation and fusion of this information as a full color image. The ICCDevCon '07 will offer a one-day meeting prior to CIC15 for those who want to use or implement ICC v4 color standards. Also, as before distinguished presenters will teach courses on topics of interest to participants. See the above web site for additional information as it becomes available.

The Conference is presented in cooperation with the Inter-Society Color Council, the Imaging Society of Japan, the Royal Photographic Society of Great Britain, the Society of Motion Picture and Television Engineers, and the Society of Photographic Science and Technology of Japan.

Colorefresh

The Color Association of the United States (CAUS) will offer a short course, "Colorefresh," May 21, 2007 in New York City.

The refresher course at The Color Association's unique workshop will be held during New York's Design Week. It will not only cover the basics of color theory and color cycles, but also will also review CAUS's latest 2008-09 trend forecast for home and packaging design. In addition, an inspirational tour of a design studio will be included.

There are only limited spots available, so register quickly. More details will follow soon. For information, please call 212-947-7774 or email caus@colorassociation.com.

CAUS is a member body of ISCC.

Display Week: SID 2007

The Society for Information Display (SID) 2007 International Symposium, Seminar and Exhibition will be held May 20-25 in Long Beach Convention Center, Long Beach, California. The event will provide access to a wide range of technology and applications from high-definition flat-panel displays using both emissive and liquid-crystal technology to the latest in OLED displays and large-area projection-display systems. Information on the latest in image processing, systems software, display processor hardware, human factors, applied vision, and new applications such as multimedia and the electronic cinema will be offered.

Display Week has several components, including a symposium, a business conference, an investors conference, tutorials, exhibitions and an exhibitor's forum. The Symposium, to be held May 22-25, will consist of 67 sessions of invited and contributed papers with 270 oral presentations and 200 poster presentations. The Business Conference will be held May 21 and 22 and include a networking reception on Monday evening and the SID 2007 Keynote Addresses on Tuesday. The Investors Conference will be held May 22-23. Tutorials are scheduled for the early morning hours of May 23-25. More information on the meeting can be found at www.sid.org/conf/sid2007/sid2007.html.

SID encompasses the technical and business disciplines that relate to display research, design, manufacturing, applications, marketing, and sales. The Society has about 6000 members and is a Member Body of the ISCC.

The DCC Color Technology Course

The College of Technology at Eastern Michigan University and the Detroit Colour Council, a member body of ISCC, announce a Color Education short course at EMU (Livonia, Michigan) to be held May 1 - 2, 2007. The course will provide fundamentals of visual color match evaluation and of color measurement for industrial color control and color harmony. Students will learn about proper use of lighting, color vision testing, proper terminology for reporting color differences, and determination of tolerances. They will analyze color measurement and visual data from industrial samples using the most recent SAE methods. Elements of the design process and resulting effect on color quality will also be discussed.

Typical registrants are expected to have a need to learn color fundamentals to help deal with issues related to designing and producing colored products. These individuals include technicians, sales and marketing specialists, designers, engineers, color matchers, and production supervisors.

The principle instructor will be Adjunct Professor Bill Longley of Color Match Consulting. Other instructors are Allen Brown of Ford Motor, consultant Jim King, and Bob Santine of X-Rite.

For more information call program administrator Sandy Tanner at Eastern Michigan University, 734-487-2203, fax 734-483-0085, email: Sandy.Tanner@emich.edu, or Mr. Longley at 734-420-4920, wlongley@juno.com.

Continued on page 8

**INTER-SOCIETY COLOR COUNCIL
2007 ANNUAL MEETING PROGRAM**

“Bridging the Creative and Production Sides of Color”

KANSAS CITY, MO

The Inter-Society Color Council (ISCC) will hold its 2007 Annual Meeting in the Heart of America in Kansas City, Missouri Sunday and Monday, April 29 -30, 2007, at the Kansas City Marriott Country Club Plaza. Known for its fountains, boulevards, barbecue and jazz, Kansas City is also the home of Hallmark Cards. General Chairs Steve Glasscock and Scot Fernandez will be among those representing the greeting card giant at the meeting.

The 2007 theme, “Bridging the Creative and Production Sides of Color”, will explore the complexities of making color easy to use and understand while maintaining a high level of accuracy and capability, especially within reproduction systems. A highlight of the meeting will be the presentations of the Godlove Award, the Council’s most prestigious honor for lifetime achievement in the field of color, and the Nickerson Award for outstanding service to the council.

Sunday April 29, 2007

- 09:00 - 10:00 *Registration & continental breakfast*
- 10:00 - 11:00 ISCC Project Committee Meetings
 Project Committee 52: Comparative List of Color Terms II
 Project Committee 54: Colors of Maximum Contrast
- 11:00 - 11:10 Welcoming address & Opening Remarks
- 11:10 - 12:00 Keynote: **Chuck Kijak**, Crayola, “*Color = Crayola = Creativity*”
- 12:00 - 01:00 Lunch on your own
- 01:00 - 03:00 **Interest Group III Session**
 Margaret Miele – “*The Crayon Project*”
 Odeda Rosenthal – “*Translating Colors*”
 Geoff Wolfe – “*Natural Language Color Editing*”
 Becky Wyko – “*Color Preferences for Seasonal Products*”
- 03:00 - 03:30 Refreshment break
- 03:30 - 04:30 **Interest Group II Session**
 William Li – “*ICC Color Management*”
 Mary Ann Sprague – “*Ethnographic Studies of Prepress Workflows*”
- 04:30 - 05:15 Keynote: **Scott Butterfield**, Hallmark Cards, “*Color Trends 2008*”
- 06:00 - 08:30 Reception at Kemper Museum of Contemporary Art

Monday, 30 April 2007

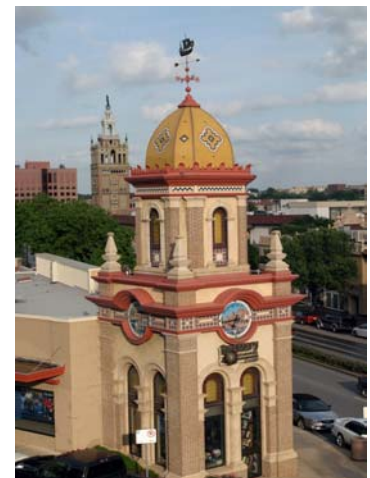
- 07:30 - 08:15 *Registration & continental breakfast*
- 08:15 - 09:00 Keynote: **Todd Storbeck**, Hallmark Cards *“Delivering the Vision for Desktop Color Reproduction”*
- 09:00 - 10:15 **Interest Group II Session**
 Tony Stanton – *“Application of Color Management to High-End Lithographic Printing”*
 Ronald Dahl – *“Process Control: The Glue of Color Management”*
 Jack Ladson – *“Total Uncertainty Analysis in Color Measurement”*
- 10:15 - 10:35 *Refreshment break*
- 10:35 - 12:15 **Interest Group I Session**
 David Hinks – *“Revisiting the Variability in Visual Small Color Difference Assessment: What It Means for Color Difference Formula Performance”*
 Y Xue - *“Uniform Color Spaces Based on CIECAM02 and IPT Color Difference Equations”*
 Dave Wyble – *“Considerations and Shortfalls of Instrument Evaluation Using ASTM E2214”*
 Rob Carter – *“A Fixation on Visual Search with Color”*
- 12:15 - 01:45 Awards Lunch at the hotel
- 01:45 - 02:35 **Interest Group I Session**
 Ying Chen – *“Psychophysical Evaluation of Computer Graphics Renderings of Paint Surfaces”*
 Karl Guylar – *“Effects of Stochastic Screening on the Gamuts of Wide Gamut Printing Systems”*
- 02:35 - 03:20 Godlove Keynote: Dr. R.W.G. Hunt *“CIE Colorimetry: Past, Present, and Future”*
- 03:20 - 05:00 ISCC Business Meeting: ISCC Directions, Refreshments served

About Kansas City

Kansas City, the City of Fountains (over 200), is filled with activities to keep you busy during non-meeting hours. It offers elegant shopping and fine dining, arts and culture, thrilling theme parks and historic jazz clubs, and professional sports. Kansas City's distinctive retail centers include downtown City Center Square and Town Pavilion shops, mid-town's Crown Center, a fascinating hotel-retail-business complex and international headquarters for Hallmark Cards and the fabulous Country Club Plaza — with its exclusive shops, outdoor cafes, elegant restaurants, art galleries, carriage and boat rides, as well as old-world architecture, statues and fountains.

For a night on the town, nothing's better than one of Kansas City's famous barbecue joints, roadside steak houses, or international bistros, followed by an evening of jazz, blues, country or rock. Or if that is not your cup of tea, downtown theaters host lyric opera, city symphony, state ballet and Broadway shows. Kansas City is also home to the Nelson-Atkins Museum of Art, housing an exceptional collection of Asian art, and the Kemper Museum of

Contemporary Art and Design. Other attractions may include the Dead Sea Scrolls exhibit at Union Station; the twin amusement parks, Worlds of Fun and Oceans of Fun; the world-class Kansas City Zoo; the Truman Sports Complex, the Kansas City Royals (home game on April 30); and riverboat casinos, complete with gaming. For a complete guide to Kansas City, explore www.visitkc.com, the Official Guide of the Kansas City Convention and Visitors Association, or check out the city's online community, kansascity.com.



The Moorish architecture of the 14-square-block Country Club Plaza is modeled after Seville, Spain.

Color Research and Application In This Issue, April 2007

We open this issue with some good news and some sad news. First, I would like to invite our readers to welcome our newest endorsing society, the German Society of Color Science and Application or DfwG for short. Gerhard Rösler is their new Associate Editor and their listing is on the cover of the journal. Also, in this issue we must sadly say goodbye to a wonderful color vision scientist, Robert Merrill Boynton. Donald MacLeod has written a memorial looking back at Dr. Boynton's life and contributions.

As we've seen already with hellos and goodbyes, this is an issue of extremes. We go from asking how light a fluorescent color can be in our first article to seeing in black and white in our book review; from early ideas of simple colors in Kuehni's article about the Development of the Idea of Simple Colors in the 16th and early 17th centuries to a Proposal of a New Concept for Color-Appearance Modeling by Nayatani and Sakai. Nancy Kwallek, Kokyung Soon and Carol M. Lewis look at how the interior office colors affect "Productivity, Visual Complexity and Individual Environmental Sensitivity in Offices."

New ideas such as Mark Fairchild's proposal on "Spectral Adaptation" can be contrasted with the examination by Kuehni of the Simple Colors in the 16th and early 17th Century. Banu Manav looks at "Color-Emotion Associations and Color Preferences," while the team of Carlota M. Grossi, Rosa M. Esbert, Francisco Javier Alonso, and Araceli Rojo discusses the "Effect of laser cleaning on granite color."

The theoretical discussion of a possible analog to Ostwald's theorem for fluorescent color extending the idea of MacAdam limits to fluorescent color in the article "Optimal Fluorescent Colors" by Dennis Couzin contrasts with the "Proposed modification to CIECAM02 to include simultaneous contrast effect" by Ray Chin Wu and Roger Wardman.

The readers are invited to contribute data and give ideas. First, in terms of what they already have, researchers are invited to send data such as datasets, but also to look at "Romero's Color Invariant in a New Light." Manuel Melgosa is the new chair of the CIE Division 1 technical committee 1.55 on Uniform Color Space for Industrial Color Difference Evaluation. The committee met last summer in Leeds, and has put together a request for existing experimental datasets on color differences, which is published here. Besides contributing data, contributing ideas and connections is important. In a letter to the editor in the Communications and Comments section, Jack Ladson discusses the "Romero's Color Invariant in a New Light."

Whether it is deciding to join in developing a new uniform space [respond to Melgosa's request for existing experimental datasets on color differences] or looking back at what you missed at the last CGIV conference [see Michael Brill's report on the 3rd IS&T European Conference on Colour in Graphics, Imaging, and Vision], you as readers are invited to

enjoy this issue of contrasts. Say hello, and say goodbye. Think new thoughts, try out new technology, and explore some art, history and science. In the following column, About the Authors, you will learn about the cast of characters, who make this possible.

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

MEMBERS' NEWS

Continued from page 5

Archiving 2007

The fourth Society for Imaging Science and Technology Archiving Conference will be held May 21-24, at the Crystal City Hilton in Arlington, VA. The heart of Archiving 2007 is the program of technical papers, arranged in a single-track format to promote the interchange of information across specialties in the field. Each day begins with a keynote address. This year's plenary speakers are:

Daniel S. Rosen, vice president of technology, Warner Bros. Technical Operations, on "Archiving Large Collections of Motion Images—Perspectives for the Digital Age"

Donald J. Waters, program officer for scholarly communication, Andrew W. Mellon Foundation, on "The Current State of the Art in Digital Preservation and Continuing Challenges"

Czeslaw Jan Grycz, curator of books, Internet Archive, on "The Public Information Commons: What It is and Why the Open Content Alliance Cares About It"

Approximately 29 oral presentations will be complemented by a dozen interactive papers.

Archiving 2007 also features a five-track tutorials program. The tracks are: Digital Formats, Introduction to Repositories, Understanding Imaging Science, Imaging Performance & Digitizing Negatives, and Conservation of Special Media. Courses are offered on Monday May 21st.

For more information, please see the IS&T web site, www.imaging.org/conferences/archiving2007/.

IS&T is an international organization whose goal is to keep members aware of the latest scientific and technological developments in the field of imaging through conferences, journals and other publications. IS&T is a Member Body of ISCC.

TAGA's Annual Technical Conference

TAGA's 59th annual technical conference to be held March 18-21, 2007 in Pittsburgh, PA will be comprised of about 34 speakers from around the globe. The speakers will present the newest research results on the latest technology on topics like digital printing, ink and color, packaging, gravure and offset. This year's program looks to the future with a focus on where print is headed as well as giving attendees a vision of where the newest technologies, from organic semiconductor ink to inkjet printing of DNA.

For more information on this conference www.taga.org to register or contact Gwen Martin, conference manager, TAGA directly at 412-259-1713.

President's Column

This is my last column before our Annual Meeting, and the first since the Symposium on Industrial Color Challenges, which we co-sponsored with the AATCC, and our Winter Board meeting. In the space I have here, I want to tell you about all three.

But first it's a pleasure for me to tell you about our latest sustaining member: Avian Technologies. They are active in the development of diffuse reflectance materials and coatings and offer standards for transmittance and reflectance. On behalf of the Council, I want to thank Avian Technologies and their CTO, Dr. Art Springsteen, for their support of the ISCC and its goals.

Annual Meeting: The schedule and program for the Annual Meeting is now online and available through the meeting website at www.iscc.org/ISCC2007/, and on page 6 in this issue of the newsletter. We had originally planned for a two-and-a-half-day program, starting Sunday, April 29 and ending Tuesday morning, May 1. We found we were right on the cusp of where we could go for either a leisurely pace and end Tuesday, or a more compressed format and end Monday, April 30. We chose the latter. The last paper is Bob Hunt's Godlove Keynote address, which is scheduled to end just after 3 pm on Monday afternoon, followed by a business meeting and refreshments until 5 for those who can stay and join us in a discussion on ISCC Directions.

Before I tell you about the program, some important dates: March 20 is the deadline for early registration and April 6 is the deadline for hotel reservations at conference rate as long as the room block lasts and on a space available after that. See the webpage at www.iscc.org/ISCC2007/logistics.php for details on making hotel reservations.

The papers are remarkably well balanced across all three Interest Groups. Let me mention just a few of the papers to give you a sense of what you will hear at the meeting. There will be talks from an art director on seasonal color preferences, from a color scientist on a system for editing color images using the ISCC-NBS Dictionary of Color Names, from an ethnographer on prepress workflows, and from the Chair of the ICC (our newest member body) on color management. The Executive Vice President of TAGA, one of our older member bodies, will be there to talk about color management applied to litho printing. So attendees will receive a view that spans the creative and production sides of color.

Besides the regular papers, there are the three Keynotes. They will give views of color innovation at Crayola, "Push Button" desktop color reproduction at Hallmark and color trends in 2008. And of course, there will be the Godlove Keynote, delivered by the recipient of the 2007 Godlove Award, Dr. R.W.G. Hunt, on "CIE Colorimetry: Past, Present, and Future."

Dr. Hunt will receive the Godlove Award at the Award Luncheon on Monday, April 30. At the same time, Dave

Wyble will receive the Nickerson Service Award for his many contributions to the Council, chiefly as webmaster. All this—the papers, the keynotes, the awards and the meetings of Project Committees 52 and 54—and Kansas City will make this an especially memorable Annual Meeting. My thanks to Scot Fernandez and Steve Glasscock for all their work as General Chairs.

ISCC/AATCC Symposium: Let me switch gears and tell you a little about the ISCC/AATCC Symposium on Industrial Color Challenges, Feb. 22-23 in Charlotte. I was there to join Martin Bide, University of Rhode Island and AATCC President, and Ann Laidlaw, X-Rite and Symposium Chair, to open the meeting. This meeting shared one of the characteristics I like so much about ISCC meetings: it brought together both suppliers and users, vendors and customers, of color technology. I was told it had been about ten years since the two groups had last co-sponsored a meeting like this; we all agreed that we shouldn't wait as long before doing it again.

Of the almost 90 attendees, it seemed to me that the largest single group there were the representatives of merchandisers who sit between designers and suppliers. I counted at least 20 retailers who had attendees at the meeting, with those from Macy's and JCPenney presenting papers. This group has to insure the consistency of color goods sourced across a global supply chain. Traditional methods have been based on visual matches, but the increasing demand for reduced costs and shorter time to market is pushing the community to instrument methods and even soft displays. There isn't space here to convey the richness of the symposium. For that, I recommend Martin Bide's meeting report, which is to appear in *Color Research & Applications*.

2008 Meetings: Let me close with a little about the last meeting of the ISCC Board of Directors. The Winter Board meeting was a conference call, held Thursday, February 1. We did all the usual things, receiving reports from the Nominating and Award Committees, whose outputs you can read about elsewhere in this newsletter. The main thing I want to tell you about is what we are planning for 2008. The leading proposal for the Annual Meeting is a conference located on the East Coast on safety colors. Two people have been signed up as general chairs and are developing the meeting. For a special topics meeting, we discussed teaming with the Color Marketing Group at their Spring International Conference in Montreal next year. We received an enthusiastic response from CMG and are exploring this further, with Jim Roberts from the Board taking the lead on behalf of the Council.

All that is next year. First though, we have the 2007 Annual Meeting. I hope many of you are considering attending, and I look forward to seeing you in Kansas City April 29-30.

Robert Buckley
Xerox, ISCC President

CALENDAR

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

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

2007

- Mar 18-21** TAGA 2007 Conference, Omni William Penn Hotel, Pittsburgh, Pennsylvania, (412) 259-1706 Cathie Meyers at cmeyers@piagatf.org
- Apr 24-26** An International Conference on Colour Harmony, Sponsored by the Hungarian National Colour Committee and the International Foundation Light and Colour, Budapest, Hungary, aic.kee.hu/colour-harmony
- Apr 25-27** "The Value of Color," 2007 CPMA International Conference on High Performance and Traditional Color Pigments, Baltimore, MD, Renaissance Hotel, 703-684-4044, www.pigments.org
- Apr 29-30** ISCC 2007 Annual Meeting, "Bridging the Creative and Production Sides of Color," ISCC, Kansas City, Kansas, 703-318-0263, www.iscc.org
- May 1-2** The DCC Color Technology Course, The College of Technology at Eastern Michigan University, Livonia, Michigan, 734-487-2203, fax 734-483-0085, email: Sandy.Tanner@emich.edu
- May 7-11** Identifying Geospatial Solutions, ASPRS 2007 Annual Conference, Tampa, FL, 301-493-0290, www.asprs.org
- May 8-11** "Optical Radiation Consensus Standards and Industry," Council for Optical Radiation Measurement Annual Meeting in conjunction with NIST, Gaithersburg, MD, www.corm.org
- May 20-25** Display Week: SID 2007, The Society for Information Display (SID), 2007 International Symposium, Seminar and Exhibition, Long Beach Convention Center, Long Beach, California, <http://www.sid.org/conf/sid2007/sid2007.html>.
- May 21-24** Archiving 2007, Society for Imaging Society and Technology, Arlington, VA, 703-642-9090, www.imaging.org/conferences/archiving2007/index.cfm
- Jun 4-6** Color Cosmetics Summit 2007, Intertech-Pira, Hilton Singapore Hotel, Singapore, 207-781-9617, www.intertechpira.com
- Jun 27-29** ASTM E12 Color and Appearance, Waterside Convention Center; Norfolk, VA, 610-832-9585, www.astm.org
- Jul 4-6** 11th International Conference on Information Visualisation - IV07, ETH Zurich, Switzerland, Ebad Banissi, 44-171.815.7476, email, banisse@lsbu.ac.uk, www.graphicslink.co.uk/IV07/
- Jul 4-11** The 26th Session of the CIE, Beijing, China, www.cie.co.at/news/news76.pdf
- Jul 12-14** AIC 2007 "Color Science for Industry," "Midterm Meeting of the International Color Association, Hangzhou, China, www.aic07.com
- Jul 27-31** 19th Symposium of the International Colour Vision Society. University of Pará, Belém, Brazil. www.cultura.ufpa.br/icvs2007/

Nov 5-9	IS&T/SID's Fifteenth Color Imaging Conference , Hotel Albuquerque, Albuquerque, NM, 703-642-9090
2008	
Jan 23-25	ASTM E12 Color and Appearance , Embassy Suites Hotel; Ft. Lauderdale, FL, 610-832-9585, www.astm.org
Jun 15-18	AIC Interim Meeting, Colour – Effects and Affect , in Stockholm, Sweden, Swedish Colour Centre Foundation, Contact: Berit Bergström, berit.bergstrom@ncscolor.com , www.aic2008.org
2009	
Sept 27-Oct 2	AIC 11th Congress , Sydney, Australia, Organizer: Colour Society of Australia, Contact: Nick Harkness, www.aic2009.org

Photos pp 7 and 9: Courtesy of the Kansas City Convention & Visitors Association.

Color Scientist Position Available

DuPont Performance Coatings seeks candidates for a research color scientist position in its automotive Refinish business. DuPont Refinish is a global supplier of vehicle repair coatings. The position will be located at DuPont's Marshall Laboratory in Philadelphia, PA.

Candidates should have an advanced degree in science or engineering with specialization in color science or a bachelor's degree with work experience in developing color process control technology. The scientist will work with personnel in research, software, operations and marketing functions in the Americas, Europe and Asia to identify color system requirements and develop technical solutions. Typical applied color research areas include process control in manufacturing and color formula development, color and appearance measurement systems, model and algorithm development, customer information systems and color imaging displays. The color scientist will be part of a research team including long-range research, applied research and software development functions.

Interested candidates should contact Dr. Dave Alman by email (david.h.alman@usa.dupont.com) or phone (734-354-3532).

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

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

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.

Issue # 426

Mar/Apr 2007

Editor: Prof. Gultekin Celikiz

tel: 215-836-5729

fax: 215-836-0448

gcelikiz@yahoo.com

Associate Editor: Cynthia Sturke

tel: 703-318-0263

fax: 703-318-0514

isscoffice@cs.com

Assistant Editor: Mary McKnight

tel: 301-869-7212

mary.mcknight@starpower.net

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

ISCC Sustaining Members

Avian Technologies	www.aviantechnologies.com	937-655-8767
BYK-Gardner USA	www.bykgardner.com	301-483-6500
Ciba Specialty Chemicals	www.cibasc.com	302-633-2042
Color Communications, Inc.	www.ccicolor.com	773-638-1400
Datacolor	www.datacolor.com	609-895-7432
DuPont Performance Coatings	www.dupont.com	248-583-8345
Flex Products, Inc.	www.colorshift.com	707-525-7337
X-Rite	www.x-rite.com	800-248-9748
Hewlett-Packard Company	www.hp.com	650-857-6713
Hunter Associates Laboratory, Inc.	www.hunterlab.com	703-471-6870
IsoColor Inc.	www.spc-software.com	201-935-4494
Konica Minolta	www.konicaminolta.us	201-574-4000
Pantone, Inc.	www.pantone.com	201-935-5500
PPG Industries, Inc.	www.ppg.com	724-274-3532

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)

ISCC News Editor

Prof. Gultekin (Tek) Celikiz 1309 Paper Mill Rd, Erdenheim, PA 19038-7025
gcelikiz@yahoo.com tel: 215-836-5729

ISCC Office Manager

Cynthia J. Sturke, Office Mgr. 11491 Sunset Hills Road, Reston, VA 20190
isscoffice@cs.com tel: 703-318-0263 fax: 703-318-0514
www.iscc.org



ISCC 2007 Annual Meeting
Bridging the Creative and Production Sides of Color
April 29 – May 1
Marriott Country Club Plaza
Kansas City, MO

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

Registration Fees: (USD)	Until March 20		After March 20	
	Members	Non-members (includes membership)	Members	Non-members (includes membership)
ISCC Annual Meeting Includes Annual Mtg., Reception, Awards Luncheon, Continental Breakfasts and Breaks	\$375 _	\$450 _	\$400 _	\$475 _
	We will attempt to accommodate special dietary requests. Please add a request if needed.			
Students (Copy of valid student ID must be included)	\$125 _		\$125 _	
Accompanying Person(s) Fees (does not include sessions)				
Reception, April 29	\$ 25 _		\$ 25 _	
Awards Luncheon, April 30	\$ 25 _		\$ 25 _	
Exhibit Table	\$500 _		\$525 _	
Total Amount Due (USD)				\$ _____

Cut-off Date for registration: April 19, 2007. No refunds after this date.
On-site registration will be 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
Credit Card No. _____ Expiration _____ / _____
(Please print clearly) Mo. / Year
3 or 4 digit Verification Code _____ Signature _____
(Please print clearly)

Return completed form (by fax or mail) with payment to: Inter-Society Color Council
Attn: Cynthia J. Sturke
11491 Sunset Hills Rd.
Reston, VA 20190, USA
Fax: 703-318-0514

INTER-SOCIETY COLOR COUNCIL

2007 ISCC BALLOT

**Election of Board of Directors
2007-2010 Term**

Please vote for three candidates.

David Hinks ()

Cameron Miller ()

Barbara Parker ()

**Return of Ballot: Please return the completed ballot to the
Inter-Society Color Council Office by
April 26th, 2007 as these ballots need to be tabulated before
the April 28th Board of Directors Meeting.**

**Please respond by fax: 703-318-0514, email:
iscsoffice@cs.com or by U.S. Mail to
Inter-Society Color Council, 11491 Sunset Hills Road, Reston,
VA 20190.**

Please remember to sign your ballot. Thank you.