



Inter-Society Color Council *News*

In This Issue

Two New ISCC Honorary Members

Luke and Hemmendinger.....	2,3
Danny Rich, 1999 Nickerson Svc. Award.....	3
Panchromatic Conference Call for Papers.....	4
Munsell Color Science Lab Report.....	5
CR&A, In This Issue, April 1999.....	6
GATF Appoints Richard W. Harold.....	7
ISCC Student Travel Grants.....	8
ISCC Call for Contributed Papers.....	8
Vancouver Mtg. Special Events.....	8
The Birth of the Blues.....	9
FSCT Call for Papers, Oct. 1999.....	9
ISCC Vancouver Annual Mtg. Program...10,11	
Color Mgt. System Panel Discussion.....	12
CMG-Shaping Commercial Colors.....	13
First Class Opportunity.....	14
Intl. Color Mgt. Forum Invitation.....	14
Reprints Available.....	15
Poem from the Past.....	15
Hagley Color Fund Update.....	15
New Members Welcomed.....	16
Jobs Wanted.....	17
Advertising Opportunity.....	17
Bulcolor '99.....	17
Call for Calligraphy Volunteer.....	17
Color Calendar.....	18
Sustaining Members, Member-Bodies, Officers, Board of Directors, Contact Information.....	Back Cover



.....It's just around the corner!

Number 378

March/April

1999

INTER-SOCIETY COLOR COUNCIL'S ANNUAL MEETING MAY 5-7, 1999

The ISCC's 68th Annual Meeting (May 5-7) held jointly with TAGA's 51st Technical Conference (May 2-5) will be at the Westin Bayshore Hotel, Vancouver, B.C., Canada. An ISCC/TAGA Symposium on "Color in the Graphic Arts" will take place on Wednesday, May 5. Papers presented at the Symposium will be published in the 1999 TAGA Proceedings, Vol.1. The ISCC Annual Meeting will consist of three Interest Group sessions in addition to programs offered by the Education Committee and the CIE Technical Committee 2-25 on Fluorescent Measurement. The presentations for each Interest Group will cover the following topics:

- Int. Gr. I - Fundamental & Applied Color Research
"Color and Graphics"
- Int. Gr. - II Industrial Applications of Color
"Practical Industrial Color Assessment Tools"
- Int. Gr. III - Art, Design, and Psychology
"Color & Lighting Technology - Color and the Psychology of Color Rendering"

There will be a four-hour dinner cruise on the evening of May 5, a wine and cheese reception at the contributed poster paper session on May 6th and a business/awards luncheon on May 7th featuring the presentation of the ISCC Godlove Award to Mr. Calvin McCamy, the ISCC Nickerson Service Award to Dr. Danny Rich, and the recognition of two newly elected Honorary Members, Mrs. Joy Turner Luke and Dr. Henry Hemmendinger.

To register for the ISCC Annual Meeting please contact the ISCC Office or visit the ISCC website at <http://www.iscc.org>. This program promises to offer something for everyone! See detailed descriptions elsewhere in this issue.

**INTER-SOCIETY COLOR COUNCIL
ELECTS TWO NEW HONORARY
MEMBERS: JOY TURNER LUKE
AND HENRY HEMMENDINGER**

JOY TURNER LUKE

Mrs. Joy Turner Luke has been elected as an Honorary Member of the ISCC. Honorary Membership is reserved for those ISCC members who have rendered notable service to the ISCC or to those fields served by the individual Member-Bodies of the ISCC, in such manner as to aid in accomplishing the objectives of the ISCC. Mrs. Luke's achievement will be formally recognized on Friday, May 7, 1999 at the Awards Luncheon of the ISCC's Annual Meeting being held at the Westin Bayshore Hotel, Vancouver, British Columbia, Canada.



Mrs. Luke is currently one of the ISCC Historians. She was ISCC President from 1988 to 1990 and on the Board of Directors from 1980 to 1983. Mrs. Luke chaired ISCC Project Committee 37 "Artists' Materials" from its inception in 1976 to 1981 and again from 1989 until its completion 1991. In 1988 Mrs. Luke received the ISCC's Macbeth Award for her work relating to artists materials. In 1988 she also received a Distinguished Service Award from the Art and Craft Materials Institute. Mrs. Luke

received the Gardner Award and the Award of merit from the American Society for Testing and Materials (ASTM) of which she is a member. She is also a member the National Artists Equity Association.

Mrs. Luke is a painter and owner of Studio 231 in Sperryville, Virginia, where she conducts intensive courses on color and artists' paints. She also lectures widely on these topics for art schools and other groups with a specialized interest in color. Mrs. Luke studied art and color at Rollins College, Southern Methodist University and American University and has taken technical courses on color at Rensselaer Polytechnic Institute and Hunter Associates Laboratory. Beginning in 1960, she started exhibiting paintings in the Washington-Baltimore area, winning several awards. Mrs. Luke has been teaching painting, composition and drawing classes since 1967 and serves as a judge for art exhibitions.

She writes articles on color and artists' materials for professional journals. Since 1976, Mrs. Luke has served on the Editorial Board for the Color Research and Application. From 1993 to 1997 she edited the National Artists Equity Association's newsletter on art materials, Pen, Pencil and Paint. Mrs. Luke is the author of the book, *The Munsell Color System: A Language for Color*, and has authored computer software, *Color Cleaver*, that makes the Uniform Color Scales developed by the Optical Society of America more useful to people working with color.

*Robert Marcus
Publicity Chair*

HENRY HEMMENDINGER

Dr. Henry Hemmendinger has been elected an Honorary Member of the ISCC. Honorary Membership is reserved for those ISCC members who have rendered signal service to the ISCC or to those fields served by the individual Member-Bodies of the ISCC, in such manner as to aid in accomplishing the objectives of the ISCC. Dr. Hemmendinger's achievement will be formally recognized on Friday, May 7, 1999 at the Awards Luncheon of the ISCC's Annual Meeting in Vancouver, British Columbia, Canada.

For half a century Dr. Hemmendinger has been a mainstay of the color-technology community. His career has focused on precision spectrophotometry of reflecting materials by quantifying performance errors in colorimetry, incurred by photometric equipment and also by human observers. Of special note is Dr. Hemmendinger's work to provide calibrated materials and to publish detailed methods for accurate spectrophotometric measurements. For many years, he was the sole U. S. supplier of calibrated colored materials used to evaluate the performance of color-measurement instruments.



Dr. Hemmendinger has applied his deep knowledge of spectral reflectance curves to the formulation of products with unique and desirable appearance attributes. In collaboration with Hugh Davidson, he developed the analog Colorant Mixture Computer, COMIC I. Hemmendinger and Davidson studied how the shape of reflectance curves influences color constancy when the illumination changes, and they used this information to embody the Munsell system in glossy paint; the Munsell Book of Color. Many photographic products today are designed using rules based on their color constancy studies.

Hemmendinger is also a leader in understanding metamerism, the breakdown of a color match by change of either illuminant or observer. Hemmendinger and Davidson developed the D&H Color Rule, a device to quantify the extent of observer metamerism, which is still viewed as an indispensable aide in teaching the principles of observer metamerism. Dr. Hemmendinger has also developed methods to use metameric pairs as tools to assess instrument performance.

Dr. Hemmendinger received his A.B. and A.M. degrees from Harvard in 1935 and 1937, and his Ph.D. in Astronomy from Princeton in 1939. During World War II, he performed government research on infrared-sensitive phosphors at the University of Rochester, and later became part of the Operations Research Group of the U. S. Navy. From 1946 to 1952, he was a group leader in color and spectrophotometry at General Aniline and Film Corp. In 1952 he established (with Hugh Davidson) the firm of Davidson and Hemmendinger to do color consulting and color measurement. In 1970 he founded the Hemmendinger Color Laboratory, which is devoted to the preparation and distribution of spectrophotometric and colorimetric color standards. Dr. Hemmendinger served on the ISCC Board of Directors from 1976 until 1978. In 1997, he received the Godlove Award, the ISCC's highest honor. Dr. Hemmendinger is a member of the American Society for Testing and Materials (ASTM), a Fellow of the Optical Society of America (OSA), and a life member of the U. S. National Committee of the International Commission on Illumination (USNC/CIE).

*Robert Marcus
Publicity Chair*

DANNY RICH TO RECEIVE NICKERSON SERVICE AWARD

Dr. Danny C. Rich will be presented the Nickerson Service Award during the ISCC Annual Meeting in Vancouver, British Columbia, Canada. The presentation will take place at the business meeting on Friday, May 7, 1999.

Dr. Rich is the 13th recipient of the Nickerson Service Award. He joined the ISCC in 1975 while a graduate student at Rensselaer Polytechnic Institute and has been an active member since that time. He served as the ISCC Secretary from 1990 to 1998 and was on the Board of Directors from 1984 to 1987. From 1981 until 1989, Dr. Rich was chair of ISCC Project Committee 22 "Materials for Instrument Calibration". In 1986 he co-chaired the Williamsburg Conference on Restoration and Pres-

ervation of Antiquities. Dr. Rich co-chaired the 1992 ISCC Annual Meeting and 25th Anniversary of the International Color Association (AIC) in Princeton, New Jersey and chaired the 1996 ISCC Annual Meeting, Instrumental Methods of Color and Appearance Assessment, in Orlando, Florida.



Dr. Rich has B.S. in Physics (1973) from the University of Idaho and an M.S. in Physics (1978) from Virginia Polytechnic Institute and State University. His master's thesis was on the design and construction of a wide angle laser light scattering photometer for characterizing the particle size and size distribution of fresh water diatoms. He took his doctorate from Rensselaer Polytechnic Institute (1980) under the direction of Professor F. W. Billmeyer, Jr. His dissertation was entitled, "The perception of moderate color differences in surface color space", for which he developed the visual experimental conditions subsequently recommended by A. Robertson and the CIE for study of small and moderate color differences. After graduating from Rensselaer, Dr. Rich spent four years with the Sherwin-Williams Company in the Coatings Research Center. There he led a group in the Advanced Technology Department and was responsible for technical computing and optical properties of coatings. In 1984 Dr. Rich joined Applied Color Systems as the Manager of Research. After joining ACS he was responsible for developing the technology for CRT calibration, gloss compensation, the design of the CS-5 spectrophotometer, instrument metrology and standards, color difference equations and colorant for-

mulation of pigment containing materials. In 1991 ACS became part of Datacolor International. In the fall of 1998 Dr. Rich joined Sun Chemical Corporation to set up a new Color Research Laboratory in Carlstadt, New Jersey. Dr. Rich has written and lectured on all aspects of color science and technology.

Dr. Rich is chairman of CIE Technical Committee 2-39 on the Geometric Tolerances for Color Measurement. He also participates in the activities of CIE Technical Committee 1-27 on Cross-Media Color Reproduction, the Committee for Graphics Arts Technology Standards (CGATS), ISO Technical Committee TC6 on Optical Properties of Paper, ISO Technical Committee TC130 on Graphic Arts, and the National Printing Ink Research Institute (NPIRI) Task Group on Bronzing. Dr. Rich is a member of the American Society for Testing and Materials (ASTM), the Illuminating Engineering Society of North America (IES of NA), the Optical Society of America (OSA), the Society of Imaging Science & Technology (IS&T), the Society for Information Display (SID), the U. S. National Committee of the International Commission on Illumination (USNC/CIE), the American Association of Physics Teachers, the International Society for Optical Engineering (SPIE) and Sigma XI.

*Robert Marcus
Publicity Chair*

CALL FOR PAPERS AN ISCC PANCHROMATIC CONFERENCE "COLOR IN ITS SURROUND"

The ISCC is sponsoring a second Panchromatic Conference. We will focus on color in its surround. The conference will be held in Savannah, Georgia, from Saturday through Monday, February 19-21, 2000. **Please note that this is a change from the originally announced location.**

In the tradition of ISCC Williamsburg and Panchromatic conferences, this meeting will foster intensive interactions within a small group of specialists. This format will allow us to learn from, and build on, each others' work. We will compare neural models and appearance models, examine research methods, learn about new approaches and applica-

tions, and study the richness of using color surrounds in art. Demonstrations will help ground theoretical work in real-world surround effects.

The program committee is being chaired by Cynthia Brewer, Penn State; with Joy Turner Luke, Studio 321; Steven Shevell, University of Chicago; and Mark Fairchild, Rochester Institute of Technology as members of this committee. The conference will include both invited and contributed papers and posters.

We invite abstract submissions on all aspects of color in its surround. **The deadline for abstract submissions is May 14, 1999.** Please e-mail your abstract to Cynthia Brewer (program chair) at cbrewer@essc.psu.edu. Abstract acceptances will be announced July 1, 1999. Please limit your abstract to 300 words. Include your name, affiliation, address, phone, and preferred email address. Please include a 50-word biographical description with your submission. Indicate whether you prefer a paper or poster format.

Examples of topics and applications likely to be included are: textiles and tapestry, printing and graphic arts, maps and scientific visualizations, painting and printmaking, architecture and illumination, demonstrations of surround effects and illusions, color appearance models, image viewing conditions and tone reproduction, neural models at retinal and cortical levels, perception and psychophysics, cross-discipline challenges.

Some questions we might discuss are: In mapmaking and scientific visualization, how do we design the coding of information using color so it is visible on all possible surrounds produced within the display? In varied disciplines, are we using different terms for the same effects or the same terms with different meanings? In architectural design, how do we accurately visualize the effect of colors in large spaces when working from small color samples? And do the same issues cross over to automotive and other material design areas? In art, as viewing distances increase, how does the shift from induction to assimilation change appearance? And how do these same issues apply to the carpet and textile industries?

Requests for additional information should be directed either to:

Dr. Cynthia Brewer, Dept. of Geography,
302 Walker Building,
The Pennsylvania State University
University Park, PA 16802;
Tel: 814-865-5072 Fax: 814-863-7943
email: cbrewer@essc.psu.edu.

or
Ms. Cynthia Sturke, ISCC Office.
Tel: 703-318-0263 Fax: 703-318-0514,
email: iscc@compuserve.com

MUNSELL COLOR SCIENCE LABORATORY

This 37 page report contains activities and accomplishments of 1998 together with plans for 1999. Mark Fairchild has served as Laboratory director for three years. He points out that it is desirable to examine the accomplishments of the past year as well as to make plans for the future. Dr. Noboru Ohta joined the faculty of the Center for Imaging Science as Xerox professor of Digital Color Imaging Systems. Professor Ohta has been a member of the MCSL advisory board since its inception. He is well known for this research at Fuji Photo Film. Mitch Rosen, an MCSL alumnus, has come back to MCSL from Polaroid to work with Ohta on setting up a new color Engineering Laboratory. MCSL now has a compliment of five faculty and five staff. Fairchild states that "...we will be focusing on expanding and stabilizing our funding base."

Roy Berns, the Richard S. Hunter Professor, states that he has been involved this past year in several major activities. The first one involved completion of the Center's research to fill the newly established Xerox professorship in Digital Color Imaging Systems. The Center established a set of demanding criteria including fame and potential fortune through new avenues of research. The second major activity involves writing chapters for a third edition of *Principles of Color Technology*. The book will contain information about color imaging in addition to providing practical experience in color management of materials such as paint, plastics, and textiles.

The complete MCSL Report can be obtained from the MCSL's website: www.cis.rit.edu/research/mcsl.

Harry K. Hammond III

Color Research and Application In This Issue, April 1999

The first article in this issue is by Klaus Witt, who chaired the CIE technical committee 1-27 on industrial color difference evaluation. That committee indicated a number of topics to be investigated in future work. One of those topics was investigating the relationship between visual and colorimetric scales during magnitude extension of small color differences. Following a pilot study on the CIE Green color center, similar investigations were extended to all five of the colors proposed by the CIE for future study. In "Geometric Relations Between Scales of Small Colour Difference," Klaus Witt reports on the outcome of the complete data set, concluding that no color-difference model describes perceptual components of color difference correctly for the global color space.

From examining color difference metrics, we next look at what a difference the color can make. Color is an important aspect of many food products. It not only influences how likely the customer is to choose a certain product, but what price the product can command.

Our next article focuses on the spice, paprika. The American Spice Trade Association recommends that paprika color be determined by pigment extraction, which is an objective, but destructive, time-consuming (lasting 16 hours) process. José Nieto-Sandoval, José Fernández-López, Luis Almela, and José Muñoz developed a color index using CIELAB coordinates to characterize paprika from direct measurements of the paprika rather than on the chemically-extracted pigment. They report on this objective method to evaluate paprika in "Dependence Between Apparent Color and Extractable Color in Paprika." The diagram including the sun, object and eye or a variation of that is familiar to all those involved with color. We all are aware that it is the complex interaction of the source of illumination, the object's characteristics and the observer (or sensor) that determines the "color" of the object. We may not think about the fact that each of us, using the color constancy capabilities we are born

with, unconsciously solve the problem of separating the effect of the illumination from the object characteristics, and most often do it correctly. In the fields of computer vision and image processing this problem is studied extensively and not yet solved to everybody's satisfaction. Most approaches study the spectra of objects individually in detail and try to separate them from the illuminant. In the article, "Spectral Based Illumination Estimation and Color Correction" a different approach is taken. Reiner Lenz, Peter Meer, and Markku Hauta-Kasari present a statistical technique to characterize the global color distribution in an image, then discuss how the result can be used for color correction of a single image and for comparison of different images.

In recent years this journal has carried a number of articles describing various color appearance models such as those developed by Nayatani, Hunt, and others, including most recently CIECAM97s. Color appearance models have many applications as we'll see in this issue. Also, the more extensive models account for many factors, while other models are more limited in scope, perhaps modeling only the change caused by changing the illuminant. Needless to say, the computations of the more extensive metrics are more involved and require more input information. Color appearance models can be used to bridge between originals and reproductions or between color produced in one medium and the same image produced by another medium. However, there are other uses also.

In this issue we have two articles that deal with changes in color appearance. The first article is an example of a new application. In the first article, Shudeish Mahadev and Ronald C. Henry describe the "Application of a Color Appearance Model to Vision Through Atmospheric Haze." Their focus is to evaluate the improvement in visibility due to the reduction of air pollutants. In order to quantify the relationship of haze to the color appearance of objects being viewed through it, the Hunt 94 color appearance model was used to compare matches made with a special visual colorimeter and simultaneous spectral measurements.

In the second article, "Color Appearance Repro-

duction: Visual Data and Predictive Modeling,” Mark D. Fairchild and Garrett M. Johnson describe experiments that collect and compare data in the viewing conditions that match typical CRT use (D65 or D50 white point, low luminance, and dark surround) and the viewing of photographic prints (D50 white point, high luminance and light surround). The authors find that extensive modeling was not necessary because simple linear transformation of tristimulus values between viewing conditions provided a good description of the data.

More and more people are using colors in displays to convey information or code object groups. With more access to color and easier selection of complex and multicolored backgrounds, the choice of colors must be considered carefully to achieve intended information transfer. In the next article, “An Algorithm for the Selection of High Contrast Color Sets,” Paola Campadelli, Roberto Posenator, and Raimondo Schettini describe a new algorithm for selecting a maximally contrasting set of colors.

The special feature of this algorithm, unlike earlier published algorithms, is that the function used to code the similarity between colors does not have to be a distance metric. For the past seven years, William A. Thornton has given us a series of articles on improved colorimetry. In these articles, he cited deficiencies of the standard CIE colorimetric systems, and suggested how to correct these problems. Now in “Spectral Sensitivities of the Normal Human Visual System, Color Matching Functions and Their Principles, and How and Why the Two Sets Should Coincide,” Dr. Thornton offers a detailed tutorial explaining some subtleties in the experimental basis of color-matching functions. The reader will want to attend closely to the deeper implications of his arguments, for additivity and for other felicitous properties that tend to be taken for granted.

*Ellen C. Carter, Editor
CR & A Journal*

GATF HIRES RICHARD W. HAROLD FOR THEIR NEW COLOR AND APPEARANCE MEASUREMENT LAB

The Graphic Arts Technical Foundation (GATF) has created a new research lab to measure color and other appearance attributes such as gloss, luster, and surface smoothness. The Color and Appearance Measurement Laboratory provides a center for research, technical workshops, and print analysis services.

GATF recently hired Richard W. Harold, an internationally recognized color expert with 33 years of research and consulting experience, to manage the lab. Throughout his career, he has been involved in numerous Europe- and USA- based scientific associations and industry committees. Mr. Harold has published numerous technical papers on the subjects of color and appearance technology and is the co-author, with Richard S. Hunter, of *The Measurement of Appearance*, Second Edition.

“Richard has helped the textile, plastic, food, and paint and coatings industries with color and appearance issues,” said Richard Warner, vice president and director of research for the Foundation. “With this broad range of expertise, he brings a fresh perspective to the problem of color matching in the printing industry.”

Unless visually impaired, people learn at birth to recognize objects by appearance and thus are astute, fast, and highly discriminating in judging the appearance of familiar objects. An object, such as printed material, can have many variables affecting its appearance. By measuring key variables such as paper and ink, more control is gained over a product’s appearance. If abnormalities are detected in the key variables, printers can adjust accordingly and predict the end product’s appearance more accurately. This can dramatically improve quality, reduce rejected jobs, reduce time and material loss, increase customer satisfaction, and increase profits.

The Color and Appearance Measurement Lab will be combined with GATF’s Preucil Print Analysis



Lab, which was established in May 1996. It was dedicated to Frank Preucil, "the father of densitometry," who pioneered and promoted the use of color reflection densitometry as means of controlling and evaluating process-color printing in lithography. Together the labs house state-of-the-art measuring equipment including scanning densitometers, colorimeters, spectrophotometers, gloss meters, goniophotometers, microscope plate measuring instruments, computer workstations, print analysis and color matching software, and statistical and database software.

The new lab also received a Zeiss microspectrophotometer. Valued at \$120,000, the Zeiss is capable of accurately measuring the color of very fine printed lines or sample areas as small as 0.05 mm useful for analyzing security printing and other materials.

For more information regarding the services provided by the new Color and Appearance Measuring Laboratory, contact by mail to:

Richard W. Harold, Senior Color Scientist
GATF

200 Deer Run Road

Sewickly, PA 15143-2600

tel: 412-741-6860 ext: 587; fax: 412-741-2311

or email: rwharold@worldnet.att.net.

STUDENT TRAVEL GRANTS



Student Travel Grants applications are now being accepted for student travel to attend the ISCC Annual Meeting in Vancouver, BC in May 1999. Two \$500 Travel Grants are available. A preference will be given to those who are giving presentations or posters. For further information, please contact:

Dr. Vivianne Smith,
Education Committee Chair

University of Chicago

939 E. 57th St., Chicago, IL 60637

tel: 773-702-1983 fax: 773-702-4442

email: vc-smith@uchicago.edu

CALL FOR CONTRIBUTED PAPERS

ISCC Annual Meeting, May 5-7, 1999

There will be a Contributed Posters Session at the 1999 ISCC Annual Meeting in Vancouver, BC, Canada. The intent of this session is to provide a vehicle which could be used by all ISCC members to share state-of-the-art color information. Whether you are an artist, scientist, industrialist, educator, student, or researcher, we are interested in hearing what is new in your area of color. The topics for this session are completely open. Each poster contribution should represent original work of a non-commercial nature, which is suitable for presentation. This Poster Paper Session will provide you with an excellent opportunity to present the innovative color work that you may be doing, to color-interested colleagues attending the meeting. Please send entries, in the form of a title and abstract by March 1, 1999 to:

Yan Liu, Chair, Contributed Papers
Research Dept.

Gemological Inst. of America

5345 Armada Drive, Carlsbad, CA 92008

Phone: (760)603-4500 ext. 7563

Fax: (760)603-4021 email: yliu@gia.edu

ISCC ANNUAL MEETING ANNOUNCES SPECIAL EVENTS

The ISCC has planned events to complement their Annual Meeting giving attendees and their guests an opportunity to socialize, meet new people and enjoy the beauty of Vancouver, B.C. Following the Bridge Program on Wednesday, May 5th, there will be a **four hour cruise on the Kona Winds Yacht featuring a delicious salmon buffet**. Roast beef will also be offered, along with a great selection of buffet items to tickle your taste buds. There are a limited amount of tickets, so make your reservations early! On Thursday, May 6th, you are invited to attend the **ISCC Poster Session** while enjoying a **wine and cheese reception**. This is a great chance to mingle with fellow colleagues, view some exciting presentations and visit with their contributors. You won't want to miss the **Awards Luncheon** on Friday where the ISCC recognizes members with a variety of special commendations.

THE BIRTH OF THE BLUES

The birthdays of "blues" and other colors reveal a lot about the evolution of culture and language. With them you can test theories of color categorization (color naming) in an unexpected mini-laboratory: Dictionaries such as Merriam-Webster's Collegiate (I use the 10th edition, 1995) record a date of origin with each defined word. These dates can be harvested for fun if not for profit. When looking for a relationship between Newton's blue and cyan (which has been explored elsewhere in great detail), I found that Newton had no word "cyan," for "cyan" was born in 1889!

The game can continue. "Magenta" is only a generation older than "cyan", being born in 1860, but "yellow" is a venerable ancestor, pre-dating the 12th century. "Red" also pre-dates the 12th century, but "green" and "blue" came somewhat later, in the 13th century. As language follows the evolution of a culture, English color names may have emerged in the order of decreasing salience of color categories. That is why the dictionary might be a mini-lab. Followers of Berlin and Kay may want to comment.

Another feature: Merriam-Webster calls all dates prior to 1100 "pre-12th century." As an English dictionary, it may assume a linguistic start date of 1066.

One might be led to doubt Merriam-Webster by a peculiar attribution: the expression "in the pink" (1573) predates "pink" as a color (1678). But I am told by ISCC color historians that some of the dates are accurate, if not revealing of certain colorful historical details. For example, a chemist coined "magenta" in 1859 as the name for a new coal-tar dye. The name was intended to call to mind a blood color reminiscent of a particularly grisly battle in Magenta, Italy earlier that year. The source of this information (initials CM, an award-winner this May, but otherwise anonymous)¹ may want to step up to a more extensive series on the etymology of color terms. We would all read attentively.

But let's beware. Etymology, like a pixel in an image, gets fuzzy and ill-defined when viewed too closely. So far, I have viewed this picture from parlor-game distance to keep the fun alive.

Michael H. Brill
ISCC President

¹Confirmed in Webster's Encyclopedic Unabridged Dictionary (1996).

FEDERATION OF SOCIETIES FOR COATINGS TECHNOLOGY

FSCT is seeking technical papers to be considered for presentation at the Annual Meeting Technical Program, to be held at the Dallas Convention Center, Dallas, TX, on October 20-22, 1999. Held in conjunction with the International Coatings Exp., the Federation's 77th Annual Meeting will feature a variety of program sessions on the leading technical work in the industry.

The Annual Meeting Program Committee, chaired by Andrew Gilcinski, of Air Products & Chemicals, Allentown, PA, is soliciting presentations on the following topics:

- Waterborne Coatings
- Testing Methods
- Radiation (UV/EB) Curing
- Formulation Advances
- Manufacturing Techniques
- Equipment Advances
- Powder Coatings
- New Formulation Materials
- Other novel technical topics pertinent to the coatings industry.

Please provide a 75-100 word abstract, along with contact information [author's name(s), company name, address, telephone, fax and email address] to:

Rod Moon, Director of Education,
FSCT

492 Norristown Rd, Blue Bell, PA 19422
tel: 610-940-0777; fax: 610-940-0292, or
email: rodm@coatingstech.org.

The deadline for submission is March 31, 1999.

ISCC 68th Annual Meeting**May 5-7, 1999****Vancouver, B. C.****Current Schedule
(as of March 1, 1999)****Wednesday, May 5, 1999 TAGA/ISCC Bridge Program**

7:30-8:15	a.m.	Continental Breakfast
8:00-11:00	a.m.	Registration
8:15-8:30	a.m.	Opening / Introduction / Announcement

Color Management Panel (Moderated by Bob Chung / RIT)

8:30- 8:55	a.m.	<i>The Current State of the International Color Consortium (ICC)</i> Tim Kohler/Canon Information Systems
8:55- 9:20	a.m.	<i>Implementation of ICC-based Profiling Tools</i> , Parker Plaisted/Alcian
9:20- 9:45	a.m.	<i>Performance Evaluation of ICC-based Color Management System</i> , Erwin Widmer/EMPA
9:45-10:10	a.m.	<i>What's Next in Shaping the Color Management Paradigm</i> , Jim King / Adobe
10:10-10:40	a.m.	Break
10:40-11:05	a.m.	<i>Something Old, Something New, Something Borrowed, Something Blue</i> , Edward Granger/X-Rite
11:05-11:30	a.m.	<i>Gamut Mapping for Pictorial Images</i> , Gustav J. Braun and Mark D. Fairchild/RIT
11:30-12:00	a.m.	Discussion
12:00-1:15	p.m.	Luncheon on your own
1:15-4:30	p.m.	Registration

Technical Session (Moderated by David Q. McDowell/Eastman Kodak)

1:15-1:40	p.m.	<i>Graphic Arts Color Standards</i> , David Q. McDowell /Eastman Kodak
1:40-2:05	p.m.	<i>Measurement without Bounds</i> , David Spooner /rhoMetric Associates, Ltd.
2:05-2:30	p.m.	<i>Spectral Reflectance Prediction of Ink Overprints by Kulbeka-Munk Turbid Media Theory</i> , Di-Yuan Tzeng and Roy S. Berns / RIT
2:30-3:00	p.m.	Break

Technical Session (Moderated by Richard Holub /Imagicolor)

3:00-3:25	p.m.	<i>Some Requirements for Accurate Network Color</i> , Richard Holub / Imagicolor
3:25-3:50	p.m.	<i>New Color Vision Tests on Monitor</i> , K. Ladunga /Technical U. of Budapest
3:50-4:15	p.m.	TAGA/ISCC Bridge Program Review
4:15	p.m.	Closing / Announcement

5:30-9:00 p.m. **Grand Opening Reception - Salmon Fest****Thursday, May 6, 1999 [ISCC Annual Meeting]**

8:00-11:00	a.m.	Registration
9:30-12:00	a.m.	Education Committee (Chaired by Vivianne Smith /U. of Chicago) <i>Recent Progress in Computational Color Constancy</i> , Brian Funt / University of British Columbia <i>Cutting the Uniform Color Scales</i> , Joy Turner Luke / Studio231
10:15-10:45	a.m.	Break
12:00-1:00	p.m.	Luncheon on your own
1:00-4:00	p.m.	Registration

Thursday, May 6, 1999 (continued)

- 1:00-4:00 p.m. **Interest Group II, Industrial Applications of Color
(Chaired by Michael Stokes/HP)**
An Assessment of the Effect of the White Pigment Used in a Bleach on the Determination of Ink Strength, D.C. Rich and R.W. Bassemir / Sun Chemical
The Beam Splitter - A Tool for Color Difference Studies, Ralph Stanziola / Industrial Color Technology
Two Green Gem Materials for Simulating Natural Emerald, Yan Liu, Taijin Lu and James Shigley / GIA
- 2:45-3:15 p.m. Break
- 4:00-5:30 p.m. **CIE Technical Committee 2-25 on Fluorescence Measurement
Joanne Zwinkels/National Research Council of Canada, Chair**
- 5:00-7:00 p.m. **Posters Session Yan Liu/GIA, Chair
Wine & Cheese Reception**

Friday, May 7, 1999 ISCC Annual Meeting

- 8:00-11:00 a.m. Registration
- 9:00-12:00 a.m. **Interest Group I, Fundamental & Applied Color Research
Helen Epps / U. of Georgia, Chair**
Color Management and Graphic Arts: Past, Present and Future, Anthony Johnson/London College of Printing and David McDowell / Eastman Kodak
Selecting Hue Pairs for Maps Using Color Naming and Color Vision Research, Cynthia A. Brewer / Penn State U.
Von Kries and Beyond: Color Constancy as Ratio of Sampled Synthetic Spectra by Michael H. Brill, Sarnoff Corp., Princeton, NJ.
- 10:15-10:45 a.m. Break
- 12:00- 1:30 p.m. Award Luncheon / Business Meeting
- 1:30- 4:30 p.m. **Interest Group III, Art, Design & Psychology
Curt Fritzeen / Steelcase Inc., Chair**
A Study of the Relationship between Hue Variations and Affective Responses in Color Communications, Tien-Rein Lee / Chinese Culture U.
Philosophical and Aesthetic Decisions in Gallery Lighting, Suzanne Thomassen-Krauss
Color Preference Index, Bill Thornton
The Effect of Color Temperature on Lighting Artwork, Phil Bradfield and Steven Weintraub
- 2:45-3:15 Break

Meeting Chairman: Professor Robert Chung, RIT/SPMS
69 Lomb Memorial Dr., Rochester, NY 14623
tel: 716-475-2722, fax: 716-0475-7029 <http://www.rit.edu/~rycprr>

COLOR MANAGEMENT SYSTEM PANEL DISCUSSION

The following is a summary of description of the Color Management Panel Discussion which will take place on May 5, 1999 as part of the TAGA and ISCC Bridge Program. Moderator of the panel discussion is Professor Bob Chung, RIT.

8:30- 8:55 The Current State of the International Color Consortium (ICC); Tim Kohler, Canon Information Systems

This presentation will give an overview of how the ICC system was designed, what the current ICC profile can do and what the ICC is doing to make the ICC system a real color communication solution.

8:55- 9:20 Implementation of ICC-based Profiling Tools; Parker Plaisted, Alcan LLC.

The International Color Consortium (ICC) has defined a useful and flexible framework for device profiles. The ICC specifications for device profiles has enabled platform-independent and vendor-neutral color management to exist. The fundamental requirements now for implementing a color management system have been reduced to a set of device profiles, a Color Management Module (CMM), and an Application Programming Interface (API) that utilizes the CMM and device profiles. The flexibility of the ICC framework for device profiles is both a blessing and a curse. The flexibility allows the profiles to be tailored to the needs of different imaging systems and industry applications. However, this flexibility also prevents consistent results from profiles that have been generated for the same device by different software applications. This presentation will highlight the areas in the construction of ICC profiles that lead to the largest differences in profile performance.

9:20- 9:45 Performance Evaluation of ICC-based Color Management System; Erwin Widmer, EMPA

To create ICC-profiles there is software needed. For the printing industry about four important suppliers are with products on the market. These softwares have already a high degree of development. The question arises, if the different softwares lead to the same reproduction quality? Some institutions have done performance evaluation with profiles coming from these ICC-profiling softwares. Not all researches have come to the same results. It is not an easy task to find numbers which really describe the quality of the color management system (CMS) itself and are not influenced by any circumstances. It's important to know about the other CMS components like CMM and applications, about the workflow, about the calibration of all the involved devices and the production tolerances to judge these results. This presentation tries to give a summary of such performance evaluations.

9:45-10:10 Next in Shaping the Color Management Paradigm; Jim King, Adobe

The birth of the ICC architecture has centered around devices and images. Composite documents required a more general view. Text, graphics and images are collected from a variety of sources and organized into documents. It is not practical nor wise to convert all of these contributed parts to one single color space and/or into one single image. The diversity of color spaces must be maintained within the compound document. This multi-object orientation may not have a big impact on the ICC profiles or the API's to the color management system but it must be recognized by the applications that use them and understood by their users. We must also remember that text and graphics have color that needs to be managed.

Edward Granger, Gustaf Braun, and Mark Fairchild, names familiar to many ISCC members, round out the panel and their presentations will add to the panel. [Biographies will be listed in the final program.]

COLOR MARKETING GROUP TECHNOLOGY - SHAPING COMMERCIAL COLORS FOR 2001

Colors for Contract/Commercial markets in 2001 will be micro-refined and full of complex colors perfect for layering. The overall feeling will be serene, relaxing and 100% decaffeinated! This was the consensus of over 650 Color Experts, all members of CMG (www.colormarketing.org), who gathered in Montreal in October 1998, to forecast colors for Contract/Commercial Environments in 2001, including Retail, Hospitality/Entertainment, Office and Health Care.

CMG members develop cross-industry short and long-range color forecasts for manufactured products. The Palettes provide a guide for integrating new colors in product lines. "CMG members will adjust the strength of the color to fit their particular product, but at the same time, feel comfortable that it will coordinate with complementary products in the Contract marketplace," says Color Marketing Group President, Hall Dillon, CMG*, Dorn Color Card, Inc., Cleveland, OH, USA.

The four major Color Directions identified in CMG's 2001 Contract/Commercial Palette are: Special Effects and Finishes, New Technologies, Techno-Naturals and Future Brights.

Special Effects and Finishes continue to influence the Color Palette, but with less "iridescence" and more "luminescence." Co-Chairman of the Contract Color Directions Committee, Karen Martin, CMG, Mannington Carpets, Inc., Calhoun, GA, USA, reports, "The future predicts a shift of lustrous metallics and pearls to velvet, suede and matte finishes. Anodized, galvanized and oxidized surfaces reinforce the current direction." In addition, colors with texture and surface interest remain an important consideration.

New Technologies have produced new pigments which literally change randomly from hue to hue. Things are not always what they seem. Multi-dimensional colors from the earth-based to

ethereal are emerging.

Techno-Naturals: A very strong gray influence was apparent with the inclusion of several grays and gray-tinted hues in both the Emerging and Forecast Palettes. All brown and gray cast neutrals (urban neutrals) are important in light and dark tones. "An interesting interplay of color and light make the usual, unusual," says Co-Chairman of the Contract Color Directions Committee Jon Christian, CMG, Len-Tex Corporation, North Walpole, NH, USA.

Future Brights: Atmospheric, clean, exhilarating tones emerge from an assortment of blues and greens and a dash of daring red. Future Brights are juxtaposed with Future Grays.

The Contract Color Directions forecast for the year 2001 are:

Wasabi: A non-acidic, minimalistic, muted green, similar to an Asian Green.

Mist: A non-to-be-missed pure neutral Gray.

Ice Crystal: A cool, icy, atmospheric Blue, on the edge of plate glass.

Bon Soir: A tinted Blue-Black that's a diamond in the rough.

Sorrel Brown: A versatile workhorse for a color-based neutral.

Van Gold: A burnished, opulent, malleable metallic.

Brocade Gold: A sophisticated neutral, to coordinate well with the bright accents.

Moulin Rouge: A cosmetic Rose, a kiss away from Berry.

Aquarelle: A clear, refreshing water-influenced Green/Blue.

Beaucoup Bleu: A non-aggressive mid-value Blue filling the gap between Ice Crystal and Provence.

Provence: A rich, clean, Mediterranean Red-Base Blue.

Color Marketing Group (CMG), founded in 1962 and based in Alexandria, VA, is an international, not-for-profit association of 1,500 Color Designers; professionals who enhance the function, salability and/or quality of a product through their knowledge and appropriate application of color. CMG members forecast Color Directions one to three or

more years in advance for all industries, manufactured products and services. These products are Consumer/Residential and Contract/Commercial.

Consumer/Residential Products include: Interior Home, Transportation, Architectural/Building, Communications/Graphics, Fashion, and Action/Recreation. Contract/Commercial Products include: Hospitality/Entertainment, Office and Health Care.

For more information on CMG's Experts Bureau, contact: Color Marketing Group, 5904 Richmond Highway, Suite 408, Alexandria, VA 22303-1864 USA. Tel: 703-329-8500 Fax: 703-329-0155; email: cmg@colormarketing.org.

Website: www.colormarketing.org.

Beth Shannon

Color Marketing Group

DO YOU WANT TO BE FIRST CLASS?



One of our members in the United States asked, "Why can't I get my *ISCC News* by first class mail?" So we listened! At the February meeting, the board added this option for all our members. Starting in 2000 when you renew your annual membership, an additional option will be included. It will provide for first class mailing of your *ISCC News* for an additional \$10 charge/year.

Those of you who don't want to wait until next year to start getting your newsletters by first class mail, can contact the *ISCC* office to arrange an immediate change at the prorated cost of \$2/issue for the number of issues remaining this year.

INTERNATIONAL COLOUR MANAGEMENT FORUM INVITATION

Dear Colleagues,

On 24-25th March the Colour & Imaging Institute (CII) at the University of Derby will host an International Colour Management Forum, in association with the International Color Consortium (ICC). This two-day event will bring together leading figures from both the colour science and colour management communities, and provide a rare opportunity to learn at first hand about the current state of the art and directions for future development in this crucial area of multimedia imaging. Full information about the Forum, together with registration details, can be found at: <http://colour.derby.ac.uk/Forum>.

Prof. Ronnier Luo and I, as Co-Chairs, warmly invite you to attend this important event and to participate in the discussion on the future of colour management systems.

Yours sincerely,
Lindsay MacDonald

Please contact:

Lindsay W. MacDonald
CEng FBCS FIEE FRSA
Professor of Multimedia Imaging
Colour & Imaging Institute,
University of Derby Kingsway House,
Derby DE22 3HL, England UK
<http://colour.derby.ac.uk/colour/people/lindsay/>
Tel: +44 1332 622217
Fax: +44 1332 622218
L.W.MacDonald@colour.derby.ac.uk

Suki Atwal
Colour & Imaging Institute
Kingsway House, Kingsway, Derby
DE22 3HL, England UK
tel: 01 332 - 622-222 ext 3102
fax: 01 332 - 622-218

SPECIAL SALE CONTINUES.....**Reprints of "Color and Light"**

by Fred W. Billmeyer Jr.,
and Harry K. Hammond, III.

Chapter 40 of ASTM Paint Manual, 23 pages

\$5 each or 20 copies \$50...

Authorized reprint from ASTM Manual 17,
Copyright 1996.

American Society for Testing and Materials,
100 Bar Harbor Dr.,

W. Conshahocken, PA 19428-2959

"Demystifying Color" by Bob Chung

11 pages (color), \$5 each or 20 copies \$50...

This technical report, produced by
Bob Chung of R.I.T. when he was the
ISCC Education Comm. Chair.

Discusses and explains ten myths about color.
Either publication can be obtained by sending a
check or money order (pre-paid-s&h included)
to:

Inter-Society Color Council,
Cynthia J. Sturke, Admin. Asst.
11491 Sunset Hills Road,
Reston, VA 20190



If you plan on attending the ISCC Annual Meeting in May, we have a special addition to your registration packet. While, we hope it doesn't rain in Vancouver, we want you to be prepared. Your very own "spectrum of colors", golf-size umbrella will be awaiting your arrival. Make sure to pick yours up at the registration desk before the meeting begins. "Let a smile be your umbrella!"

When I was young and life was bright
I used to say the sun was white;
But now I'm told in terms emphatic,
The sun is really achromatic.

It used to be correct to say
the autumn skies were bleak and gray;
But now I've learned -- Oh! Thought ecstatic,
Gray skies are really achromatic.

And when it rained and made a mess
the drops to me were colorless;
But now in scenes so hydrostatic
Those drops are simply achromatic.

And thus it was, and thus it is,
I think by gosh and then gee whiz,
My mind is warped and quite erratic;
I'm sure my thoughts are achromatic.

Deane B. Judd

(from the ISCC Newsletter No. 155 Sept/Oct 1961)

**THE HAGLEY COLOR FUND
CONTINUES TO GROW!**

Donations for the Hagley Color Fund continue to be received in the ISCC Office along with the ISCC membership renewals. We are encouraged to see that members are supportive of our endeavor to preserve color history. Donations to the Hagley Color Fund are tax deductible and will help in the cataloging of the color materials which have been already sent to the Hagley. If you have items relating to color history which you think may add to this collection, please contact:

Mrs. Joy Turner Luke
Studio 231, 93 Bronson Lane
Sperryville, VA 22740-9707
Tel: 540-987-8386
Fax: 540-987-3353

Joy continues to graciously donate her time to oversee this project. The rewards of her efforts will be a wonderful collection to be shared by all at the Hagley Museum and Library in Wilmington, Delaware. The ISCC thanks you, Joy.

ISCC WELCOMES NEW MEMBERS



		<i>Telephone</i>
Mr. Randy Bohman	R. B. Atlas Inc. 9 Canso Rd., Rexdale, Ontario, Canada	416-241-4647
Mr. Noel H. Browning	Noel H. Browning Design 1153 Ruberta Ave., Glendale, CA 91201-1938	818-246-4186
Mr. Philip Bradfield	Tailored Lighting Inc. 1350 Buffalo Rd. Suite 12, Rochester, NY 14624	800-254-4487
Ms. Jane Huesemann	Gould Evans Associates 706 Massachusetts St., Lawrence, KS 66044	785-842-3800
Dr. Christopher Hawkyard	UMIST Dept. of Textiles 10, Kempton Blöse, Hazel Grove, Stockport, UK	(0)161-955-8161
Mr. Garrett M. Johnson	Munsell Color Science Lab, RIT 54 Lomb Memorial Dr., Rochester, NY 14623	716-475-7191
Ms. Youngshin Kwak	Ewha Color & Design Research Inst., Ewha Woman's Univ. 11-1 Daehyun-dong, Seodaemun-ku, Seoul 120-750 Korea	82-2-260-3729
Dr. Kimberly A. Jameson	University of California, San Diego-Psychology, 9500 Gilman Drive, La Jolla, CA 92093-0109	619-822-0537
Dr. Michael E. Miller	Eastman Kodak Company 19 Monaco Drive, Rochester, NY 14624	716-426-5258
Dr. Ethan D. Montag	Munsell Color Science Laboratory, Ctr. for Imaging Science RIT, 54 Lomb Memorial Drive, Rochester, NY 14623	716-475-5096
Mr. Cesar A. Morales	Raabe Corporation N92 W14701 Anthony Ave., Menomonee Falls, WI 53051	800-966-7580
Mr. Francisco Pichardo	Proctor & Gamble 6 Barn Gate Ct., Reisterstown, MD 21136	410-833-2738
Dr. Michal R. Pointer	9 Bishops Drive, Salisbury SP1 2JY UK	44-1722-327-242
Dr. Robert H. Risch	IBM, TJ Watson Research Center P.O. Box 218, Route 134, Yorktown Heights, NY 10598	914-945-2453
Mr. David Anthony Sanchez	Flex Products, Inc. 1402 Mariner Way, Santa Rosa, CA 95407	707-525-6966
Mr. Miguel Santamaria	Tikkurila, Inc. 7600 State Road, Philadelphia, PA 19136	215-335-7331
Mr. Dennis Senackerib	Tikkurila, Inc. 7600 State Road, Philadelphia, PA 19136	215-335-7331
Dr. Francoise Vienot	Museum National D'Histoire Naturelle Laboratoire de Photobiologie, 43 Rue Cuvier, 75005 Paris, France	33-1-4079-37-22
Dr. Kla'ra Wenzel	Coloryte Hungary Ja'nos Zsigmond UT 7/B, Budapest, Hungary H-1121	36-1-3727-605
Dr. Klaus Witt	BAM Unter den Eichen St., D-12200 Berlin, Germany	49-30-8104-1916
Dr. Hirohisa Yaguchi	Chiba University, Dept. Information & Image Sciences 1-33 Yayoicho, Inage-ku, Chiba 263-8522, Japan	81-43-290-3472



Jobs Wanted!

This Section is intended to help ISCC members that are in need of, and are looking for employment. Here is an opportunity to use the resources at hand. There is no charge for this service, however, the restrictions are as follows:

1. This service is for ISCC members' use only.
2. No more than 50 words may be used to describe yourself. not including contact info)
3. If you are using a P.O. Box, you must supply a complete address.
4. No Agency representing member(s) is allowed.
5. Neither the ISCC News nor the the editors are responsible for any errors.
6. You must advise us in writing when you have obtained employment.

We hope this new section will be of value to you, the ISCC member. If you have any suggestions or criticisms, please send them to the editor. Let's make this work!

BULCOLOR '99

The Color Group-Bulgaria announces their International Color Conference to be held in Varna, Bulgaria on October 8-10, 1999. The main topic of the conference will be "Color in All Directions".

A deadline for submission of presentation title and summary is May 10, 1999. For further information you may contact:

Assoc. Prof. Dr. Todor Kehlibarov
President, Color Group-Bulgaria
BG-1000 Sofia, P.O. Box 1089
Bulgaria

Tel/Fax: +359 2 88 05 97

or

Color Group-Bulgaria
BG-1000 Sofia, P.O. Box 431
108 Rakovski Street, Rm. 103
Bulgaria

Tel: +359 2 88 40 75

Fax: +359 2 987 93 60

email: ime@mb.bia-bg.com

ADVERTISING OPPORTUNITY!

The ISCC Board of Directors has initiated a new advertising policy for the Inter-Society Color Council News. Pre-paid color-related advertising will be accepted thirty days in advance of the publishing date. The rates are as follows:

\$ 100	business card-size ad
\$ 250	1/4 page ad
\$ 500	1/2 page ad
\$1,000	full page ad

Artwork must be publisher ready and will be returned within 30 days after publication. The publishers reserve the right to determine the acceptability of the advertising. There is a 20% discount offered for a yearly contract.

For further information contact:

Tek Celikiz, ISCC News Editor or
Cynthia Sturke, ISCC Office.

VOLUNTEER URGENTLY NEEDED FOR ISCC CALLIGRAPHY



We're looking for an artistic volunteer to inscribe about ten Certificates of Appreciation that will be awarded at the ISCC Annual Meeting in Vancouver (May 5-7, 1999). Each certificate will need an inscription of the name of recipient, reason for the award (3-6 words), years to/from, and date of award. It's a light task, but will need skill.

Please contact the ISCC Office to sign up. Your help will be gratefully and widely acknowledged, starting with the Awards Luncheon.

**Inter-Society Color Council News
Number 378 March/April 1999
Editor: Gultekin (Tek) Celikiz**

Send newsletter material to:

Prof. Gultekin Celikiz, Editor
1309 Paper Mill Road
Erdenheim, PA 19038-7025
Tel: 215-836-5729 Fax: 215-836-0448
email: celikizg@philacol.edu

Please note: Deadline for submission of material is the 1st of each even numbered month. Material received after the 1st may not be printed until the following issue.

All submissions must be in English.

CALENDAR



Please send information on Member-Body and other organization meetings involving color and appearance functions with dates, places, and information source to:

Cynthia Sturke
ISCC Office
11491 Sunset Hills Rd.
Reston, Va 20190

tel: 703-318-0263 email: iscc@compuserve.com
fax: 703-318-0514 website: <http://www.iscc.org>

1999

ISCC & TAGA ANNUAL MEETINGS, May 5-7, ISCC and May 2-5, TAGA Technical Conference, Westin Bayshore Hotel, Vancouver, B.C., Canada; Info: Prof. Bob Chung; Tel: 716-475-2722

SID 99, May 16-21, Society for Information Display, Info: SID Tel: 714-545-1526, email: socinfodisplay@mcimail.com

ASTM COMMITTEE D-1, Paint and Related Coatings, Materials and Applications June 13-16, Omni Rosen Hotel, Orlando, FL; info: T. Brooke, Tel: 610-832-9729; Fax: 610-832-9666; email: tbrooke@astm.org

ASTM COMMITTEE E-12, Color and Appearance, June 7-10, ASTM Headquarters, West Conshohocken, PA. Info: Bode Buckley, Tel: 610-832-9740 Fax: 610-832-1547 email: bbuckley@astm.org

AIC MIDTERM MEETING, 22-23 June 1999, Warsaw, Poland. Applications of Colorimetry in Industry and Design. Info: Organizing Committee: Tel: +48 22 620 5971 Fax +48 22 620 83 78.

CIE, 24th SESSION, June 24-30, 1999, Intl Commission on Illumination (CIE), Polish Technical Univ., Warsaw, Poland, Info: Session Secretariat. Fax: +48 22 660 5616, email: CIE99@ee.pw.edu.pl <http://www.ee.pw.edu.pl/cie99>

OSA ANNUAL MEETING, September 26-October 1, 1999, Optical Society of America, Santa Clara, CA, Info: OSA, tel: 202-223-0920,

BULCOLOR '99, October 8-10, 1999, Color Group-Bulgaria, Intl Color Conference, Color in All Directions. Varna, Bulgaria
Tel: +359 2 88 40 75; Fax: +359 2 987 93 60
email: ime@mb.bia-bg.com

TAPPI, Oct. 17-22, Technical Association of the Pulp and Paper Industry; Conference, Omni Durham Hotel, Durham, N.C., info: Lisa Archer, Tel: 800-332-8686x225

FSCT ANNUAL MEETING TECHNICAL PROGRAM, October 20-22, 1999. Dallas, TX. Contact: Rod Moon, Tel: 610-940-0777; fax: 610-940-0292, email: rodm@coatingstech.org

AATCC, INTERNATIONAL CONFERENCE AND EXHIBITION, Oct. 12-15, American Association of Textile Chemists and Colorists, Conv. Center, Charlotte, NC, Information: Hilda McQueen, Tel: 919-549-8141; Fax: 919-549-8933; email: mcqueen@aatcc.org <http://www.aatcc.org>

IS&T/SID 7TH COLOR IMAGING CONFERENCE, Nov. 14-17, Color Science, Systems & Applications, The SunBurst Resort Hotel, Scottsdale, Arizona. Tel: 703-642-9090 Fax: 703-642-9094 email: info@imaging.org; website: www.imaging.org

2000

ASTM COMMITTEE D-1, Paint, and Related Coatings, Materials and Applications, Jan. 23-26, Hyatt Regency, New Orleans, LA Info: T. Brooke, Tel: 610-832-9729; Fax: 610-83-9666; email: tbrooke@astm.org

ASTM COMMITTEE E-12 Color and Appearance, Jan 25-28, Hyatt Regency, New Orleans, LA, Info: Bode Buckley: tel: 610-832-9740; fax: 610-832-1547; email: bbuckley@astm.org

ISCC WILLIAMSBURG CONFERENCE, Feb 19-21. 2nd Panchromatic Conference, Color in it's Surround; Savannah, GA. Info: Dr. Cynthia Brewer, Tel: 814-865-5072; Fax: 814-865-7943

ISCC ANNUAL MEETING & CPMA COLOR PIGMENTS CONFERENCE; April 16-18, ISCC and Color Pigments Mfg Assoc., Charlotte, N.C., info: Romesh Kumar, Tel: 410-823-2161

SID 2000, May 14-19, Society for Information Display Long Beach CA, Info: SID, Tel: 714-545-1526; email: socforinfodisplay@mcimail.com www home page: <http://www.sid.org>.

ASTM COMMITTEE D-1, Paint and Related Coatings, Materials and Applications, June 11-14, Ascagua's Nugget, Reno, NV Info: T. Brooke, Tel: 610-832-9729; Fax: 610-832-9666; email: tbrooke@astm.org

ASTM COMMITTEE E-12 Color and Appearance, June 20-23, Sheraton Hotel, Toronto. Info: Bode Buckley: Tel: 610-832-9740; Fax: 610-832-1547; email: bbuckley@astm.org

AATCC INTERNATIONAL CONFERENCE AND EXHIBITION, Sept. 12-20, American Association of Textile Chemists and Colorists, Benton Convention Center, Winston-Salem, SC, info: Hilda McQueen, Tel: 919-549-8141; Fax: 919-549-8141 email: mcqueen@aatcc.org <http://www.aatcc.org>

IS&T/SID 8TH COLOR IMAGING CONFERENCE, Nov. 14-17, Color Science, Systems & Applications, The SunBurst Resort Hotel, Scottsdale, AZ. Tel: 703-642-9090 Fax: 703-642-9094 email: info@imaging.org; website: www.imaging.org

2001

ASTM COMMITTEE E-12, Color and Appearance, Jan 23-26, Embassy Suites, Ft. Lauderdale, FL Info: Bode Buckley, Tel: 610-832-9740; Fax: 610-832-1547; email: bbuckley@astm.org

ASTM COMMITTEE D-1, Paint and Related Coatings, Materials and Applications, January 23-26, Info: T. Brooke, Tel: 610-832-9729; Fax: 610-83-9666; email: tbrooke@astm.org

ISCC/AIC MTG, June 24-29, ISCC and Association Internationale de la Couleur, Rochester Riverside Conv. Ctr, Rochester, NY; Info: Paula J. Alessi, Tel: 716-477-7673; Fax: 716-722-1116 email: pjalessi@kodak.com

THINK
VANCOUVER, B.C.
MAY 5-7, 1999

SUSTAINING MEMBERS

BYK-Gardner USA	Tel: 301-483-6500	Labsphere, Inc.	Tel: 603-927-4266
Chromatics Color Sciences Intl, Inc.	Tel: 202-717-6544	Minolta Corporation	Tel: 201-934-5291
DuPont Automotive Products	Tel: 248-583-8345	David L. Spooner, dba rhoMetric Assoc., Ltd.	Tel: 302-764-9045
Hunter Associates Laboratory, Inc.	Tel: 703-471-6870		

****NEW SUSTAINING MEMBER: PPG Industries, Inc. Tel: 724-274-3532****

ISCC MEMBER-BODIES

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

OFFICERS 1998-2000

Position	Name	Address	email	Telephone	Fax
President	Dr. Michael H. Brill	Sarnoff Research Ctr. CN 5300, Princeton NJ 08543	mbrill@sarnoff.com	609-734-3037	609-734-2662
Pres-Elect	Mr. Jack Ladson	Dir. Color Technology, The Estee Lauder Companies, Inc. 411 Sinclair St., Bristol, PA 19007-1525	jludson@estee.com	215-781-1600	215-781-1789
Secretary	Mr. Rich Riffel	Hunter Associates Laboratory, Inc. 11491 Sunset Hills Rd., Reston, VA 20190	rriffel@hunterlab.com	703-471-6870	703-471-4237
Treasurer	Mr. Hugh Fairman	503 Bradley Court, Princeton, NJ 08540	resourceiii@erols.com	609-430-1630	609-430-1618
Past-Pres.	Dr. Ellen C. Carter	Minolta Corporation 101 Williams Rd. Ramsey, NJ 07446	ecarter@minolta.com	201-934-5228	201-825-4374

LIST OF DIRECTORS

1996-1999					
Dr. Helen H. Epps	University of Georgia, 300 Dawson Hall, Athens, GA 30602	hepps@fcs.uga.edu	706-542-4913	706-542-4862	
Mr. James R. Keiser	DuPont Automotive Products, DCC 945 Stephenson Hwy, Troy, MI 48007-2802	keiserjr@sptv4.dnet.dupont.com	248-583-8345	248-583-8316	
Dr. Cynthia A. Brewer	PSU Dept. of Geography, University Park, PA 16802	cbrewer@essc.psu.edu	814-865-5072	814-863-7943	
1997-2000					
Ms. Shashi Caan	Gensler Assoc. & Architects, 135 W. 70th St. New York, NY 10023		212-492-1400	212-492-1472	
Mr. David L. Spooner	rhoMetric Assoc., Ltd., 2918 N. Franklin St., Wilmington, DE 19802	rhomet@delanet.com	302-764-9045	302-764-5808	
Dr. Joanne C. Zwinkels	National Research Council of Canada Photometry & Radiometry Montreal Rd., M-36 Ottawa ON K1A 0R6, Canada	joanne.zwinkels@nrc.ca	613-993-9363	613-952-1394	
1998-2001					
Ms. Charla S. Haley	Techner PM, LLC Color Dev. Mgr., 1 Quality Circle, Clinton, TN 37716	chaley@techmerpm.com	423-457-6700	423-457-3012	
Mr. Craig Johnson	Minolta Corporation 101 Williams Rd Ramsey, NJ 07446	cjohnson@minolta.com	301-483-7230	301-483-6555	
Mr. Yan Liu	GIA, 5355 Armada Drive, Carlsbad, CA 92008-4606	yliu@gia.edu	760-603-4500x7563	760-603-4021	

ISCC OFFICE

Website: http://www.iscc.org					
Cynthia J. Sturke, Adm. Asst.	11491 Sunset Hills Road., Reston, VA 20190	iscc@compuserve.com	703-318-0263	703-318-0514	

ISCC NEWS EDITOR

Prof. Gultekin (Tek) Celikiz	1309 Paper Mill Rd, Erdenheim, PA 19038-7025	celikizg@philacol.edu	215-836-5729	215-836-0448	
------------------------------	--	-----------------------	--------------	--------------	--