WILLIAMSBURG CONFERENCE

Don't miss the 1984 ISCC-GATF joint conference, Color and Imaging. The symposium will be held February 12-15, 1984 in the Williamsburg Lodge, Williamsburg, Virginia. Descriptive brochures have been sent to the membership but further details may be obtained from the Arrangements Chairman, Bonnie K. Swenholt, Eastman Kodak Company, Building 69, 8th Floor, Kodak Park, Rochester, New York 14650 (716) 477-6072 or from the General Chairman, Richard D. Ingalls, Target Color Technology, Suite 37 29 East King Street, Lancaster, Pennsylvania 17602 (717) 397-4069.

ISCC 53RD ANNUAL MEETING

We have an exciting technical and social program planned for the 53rd Annual Meeting of the ISCC to be held at the Michigan Inn, Southfield, Michigan on April 8-10, 1984. The meeting will be cosponsored by the Detroit Color Council and the Detroit Society for Coatings Technology. On Sunday and Monday, April 8 and 9, there will be meetings of the ISCC Project Committees and tutorial workshops. The three-day format allows these meetings to run in parallel, but with a minimum of overlap. Three workshops will be featured. These workshops, which were very successful at the Annual Meeting last year, are a place for interaction between participants and experts in the particular field. The ISCC is composed of professionals in some aspect of color; the workshops give us the opportunity to become familiar with current thinking about color in other professions.

Since workshops will overlap one another and some committee meetings, each one will be scheduled twice to give everyone an opportunity to attend them and to keep the groups small enough for stimulating discussion.

Workshop I - The Perception and Measurement of Gloss - Fred W. Billmeyer, Jr.

Over fifty years ago Richard S. Hunter identified and defined many aspects of gloss. Even today, however, there is still confusion with these definitions and how they relate to each other. This workshop will describe and show examples of various kinds of gloss using a variety of materials and illuminating and viewing conditions. Glossmeters will be available for measurement of these samples so that correlations between perceived phenomena and instrumental measurements may be explored.

Workshop II - Everything You Were Afraid To Ask About Instrumental Color Measurement - Hugh R. Davidson

If you have ever wondered whether some aspect of color measurement might be useful in your field, or if you are just curious about instrumental color measurement, this workshop is for you. Hugh Davidson of Davidson Colleagues will describe the fundamentals and explain the strengths and weakness of current practices. The problem of relating instrumental measurement to some type of visual color sample, such as Munsell chips, will be covered.

There will also be a panel of experts to answer your questions and describe what specific instruments can do.

Workshop III - The Designers' Ultimate Catalogue - Donald Miller

A demonstration of how the computer, color measurement and a graphic display terminal can be turned into a designer's tool. Donald Miller will describe the problems and solutions. Questions and discussion are a vital part of these workshops, in this case in order to thoroughly explore the possibilities in this emerging technology.

On Tuesday morning, April 10, there will be a symposium on "The Dynamics of Automotive Color." The keynote speaker will be Trevor Creed, Executive Designer, Interior Design, Ford Motor Co., talking on "Automotive Interiors - Time for a New Approach." Other speakers in the symposium will be David Warn, General Motors, talking on "Color and Lighting Controls for Computer-Generated Images;" June Roche, Milliken Fabrics, "New Concepts in Automotive Fabrics;" and Milton Hardt, Sherwin-Williams, "The Refinish Market."

After a lunch, the jointly sponsored meeting will close with a mini-symposium on Instrumental Control of Automotive Color. Brief talks will be given by William V. Longley of Ford on "Limitations of Color Measurement for Automotive Parts," Ralph Stanziola of Applied Color Systems, and William A. Balloon of Du Pont on "Instrumental Control of Metallic Finishes." A question and discussion session will follow.

The Annual Business Meeting will be held during a luncheon on Monday, April 9. This will include the installation of the new officers and directors of the ISCC. It will also feature the presentation of the 1984 ISCC Godlove Award.

There will be a wine and cheese reception on Sunday evening. This will be an opportunity to informally meet with your
fellow conference attendees. The social highlight of the meeting will be a banquet at the Henry Ford Museum (see brochure) at Greenfield Village in nearby Dearborn on Monday evening. The evening will start with cocktails in the foyer of Lovett Hall situated on the museum grounds. Dinner will be in the Grand Ballroom, followed by a private tour of the museum for those attending.

Mr. and Mrs. Henry Ford entertained at many events, including regular square dancing programs in the ballroom. The ballroom and the foyer were the center of attraction for the Fords and their associates. Lovett Hall is named for Mr. and Mrs. Benjamin Lovett who had been dance instructors for the Edison Institute.

The ballroom and foyer are spectacular masterpieces of architecture. Floors are teakwood, windows are draped in antique damask, while the furniture is eighteenth century design. Many of the original pieces will be seen during your museum tour. The chandeliers are wood-polished crystal and especially made in Czechoslovakia. Your evening will be one you are not likely to duplicate!

MEMBER PHONE NUMBERS
It has been traditional for ISCC to publish a Directory every 2-3 years containing name, address and other pertinent information of all members. The most recent edition is dated 1982. Currently, an update is planned for mid 1984.

The Membership Directory has proven to be of major value and will be continued. It has been suggested that telephone numbers of each member would increase its usefulness.

With your dues bill, to be sent in February 1984, we will include a reply card asking you to verify the correctness of your name, address, affiliation and a request for your phone number. If you prefer not to have the phone number published, please so indicate and your wishes will be honored.

COLOR RESEARCH AND APPLICATION
Where do you expect to find published articles on color? Some years ago one had to search through many journals, most of which carried an article only once every few issues. Perhaps more appeared in the *Journal of the Optical Society of America* than elsewhere, but recent decisions of the Society indicate that their interest in color is declining.

So where should you look today for a journal devoted entirely to color? To *Color Research and Application* (COLOR), of course! And it is the most widely circulated and prestigious journal devoted to this widespread topic in the world! Are you a subscriber? Is your subscription current? Does it need to be renewed? Some ISCC members have neglected to renew their subscriptions. Others may have left the field of color, dropping their subscription for a valid reason. But ISCC gets new members all the time, and these are the people who should be entering new subscriptions. Journals cannot survive without subscribers. What category are you in? Are you a new worker in the field who should be entering a new subscription? Or are you an "old timer" who has not gotten around to subscribing, or has let his subscription lapse?

ISCC endorses COLOR, and as a result ISCC members enjoy a special member rate for personal subscriptions, half the library rate. With this rate, COLOR will cost only 10¢ for each of its 250 pages this coming year. Can you afford not to be a subscriber, to have your own personal copies for reading when it is convenient and for future reference? In my opinion, no one working in the field of color can afford not to be a subscriber. To obtain this valuable resource for yourself, be sure to enter or renew your subscription, and urge your friends and associates in the color field to do the same!

Different people look for different kinds of articles in COLOR. One of its beauties is that the variety is wide enough that there is something in the journal to interest everyone. Here are some titles of forthcoming papers that I look forward to seeing: "Textile Color Application Processes," "Analytical Versus Numerical Integration in Tristimulus Colorimetry," "Thermochromic Properties of Ceramic Color Standards," "Setting up Acceptability Tolerances: A Case Study."

ISCC members can obtain a personal subscription to COLOR for only $25.00, a 50% savings over the regular price. Simply send your name and address with a check to Juan Astudillo, Subscription Manager, John Wiley and Sons, 605 Third Avenue, New York, New York 10158. Don't forget to mention that you are an ISCC member.

Harry K. Hammond III
Associate Editor for ISCC

PROJECT COMMITTEE 40
Attention
We Need Your Help
The Color Education Resources and Materials Project Committee #40 is collecting and compiling color related bibliography lists for educators. We appreciate your assistance from your areas of expertise.

Please send to: Chris Burton, Texas Tech University, Art Dept., P. O. Box 4720, Lubbock, TX 79409.

We would like to have these lists organized by the April meeting.

Please Send Today
Thank You

FRANCIS WURZBURG
Francis Lewis Wurzburg Jr., for many years a pioneer in the physics of color reproduction in the field of graphic arts and a long time member of the ISCC, died late last spring after a brief illness.

Wurzburg was an expert in the field of color correction and control since his graduation from Yale University with an A.B. in chemistry in 1932. He was employed by Inmont Corporation from 1934 until his retirement in 1972. He worked with Professor Arthur C. Hardy of the Massachusetts Institute of Technology on theory of three color reproduction and held a number of patents in the field of color reproduction.
NEWS OF MEMBER BODIES

AATCC Workshop
Computer Applications in Textile Wet Processing

The American Association of Textile Chemists and Colorists is sponsoring a workshop entitled “Computer Applications in Textile Wet Processing” to be held February 2 & 3, 1984 at the AATCC Technical Center in Research Triangle Park, N.C.

Computers, microprocessors, robotics all are interwoven into a new age we are about to enter. While to some the subject is already passe, to others it represents a whole new language with words such as mini, micro, macro, bits, bytes, disks, diskettes, compiler, Cobol, Basic Fortran, etc. Behind all of it, however, the prudent person wants to see how this new technology will help him do his job and run his business more effectively. Toward this end AATCC is sponsoring this workshop in which the future possibilities as well as the current realities of computer related technology and its effect on different phases of textile wet processing will be discussed.


To register for the workshop or to obtain additional information pertaining to the program, contract Joan Mitchell, AATCC, P.O. Box 12215, Research Triangle Park, NC. 27709, telephone 919/549-8141.

ASTM Symposium on Appearance

ASTM will hold a Symposium on Review and Evaluation of Appearance: Methods and Techniques in conjunction with its meetings being held in Montreal, Canada, the week of May 20, 1984. The Symposium, sponsored by Committee E-12 on Appearance of Materials, will be held on Wednesday, May 23.

This Symposium will have an international flavor because in addition to being held in Canada, papers will be presented by authors from Argentina, Canada, The People’s Republic of China, and the United Kingdom, as well as by authors from the USA, some of which deal with recent appearance activities of the International Commission on Illumination (CIE). The titles of the papers, the names of the authors and their affiliations are listed below.

Modes of Appearance — R. S. Hunter, Hunter Associates Laboratory, Inc., Reston, Virginia


Recent CIE Work on Color-Difference Evaluation — A. R. Robertson, National Research Council, Ottawa, Canada

A Colorimetric Determination of Dye Content on 100% Polyester Fabrics — L. A. Hauch, S. Glicksberg, and K. Yeh, Department of Textiles and Consumer Economics, University of Maryland, College Park, Maryland

Measurement Appearance of Retroreflectors by Application Oriented Goniofotometry — N. L. Johnson, 3M Company, S. Paul, Minnesota

The Optical Properties of China-Made Colored Glass Plates — T. H. Dong, and L. C. Xie, Optical Instruments Dept., Zhejiang University, Hangzhou, Zhejiang, P. R. China

The Working Program of the new CIE Technical Committee on Colorimetry of Self-Luminous Displays — J. Rennilson, Retro-Tech, La Mesa, California

The Program of Appearance Studies at the Rochester Institute of Technology, Rochester, New York

The Working Program of ASTM’s E-12 Committee on Appearance of Materials — W. N. Hale, Hale Color Consultants, Baltimore, Maryland

Improved Embodiments of the Munsell System — C. S. McCamy, Macbeth Division, Kollmorgen Corporation, Newburgh, New York

Color in Foods — R. D. Lozano, Instituto Nacional de Tecnologia Industrial, San Martin, Argentina

Specifying the Appearance of Escalator Treads — T. E. Cohn, School of Optometry, University of California, Berkeley, California

Artist-Conducted Lightfastness Testing — M. D. Gottsegen, University of North Carolina, Greensboro, North Carolina; H. Brown, University of Delaware, Newark, Delaware; J. T. Luke, Studio 231 Sperryville, Virginia; Z. S. Pinney, Zora’s, Inc., Los Angeles, California


The Relationship between Texture, Materials and Colour Change in the Perceptual View of the Designer — C. S. Lebon, Department of Design, Teesside Polytechnic, Middlesbrough, Cleveland, United Kingdom

Further information on this Symposium or the work of ASTM Committee E-12 can be obtained from the Symposium Chairman, J. J. Rennilson, Retro-Tech, P.O. Box 3101, La Mesa, California 92041, telephone 714-698-1263, or from the Chairman of ASTM Committee E-12, W. N. Hale, Jr., Hale Color Consultants, 1220 Bolton Street, Baltimore, Maryland 21217, telephone 301-669-8631.

Harry K. Hammond III
CIE Division One, Vision and Color

The seven new CIE Divisions announced at the 20th CIE Session, Amsterdam, September, 1983, were mentioned by name and number in ISCC News No. 286. It is interesting to note that Vision and Color are designated Division Number One. The International Commission on Illumination (CIE) deals with all aspects of illumination, light and lighting, but its first major international accomplishment was to define light — electromagnetic radiation to which the human eye is sensitive — by defining the spectral radiant sensitivity of the average human eye. A second related accomplishment was to obtain international agreement on the spectral sensitivity of a standard colorimetric observer. Thus it is easy to understand the importance attached by the CIE to Vision and Color.

The Division 1 Director is Professor Doctor Hans W. Bodmann of the Federal Republic of Germany. Miss Margaret H. Halstead (UK) was asked to serve as Secretary. The Division will be organized into three sections. The Vision Section will be headed by Dr. M. Ikeda (Japan), the Color Section by Dr. C. James Bartleson (USA), and a Visual Ergonomics Section by Dr. Peter L. Walraven (The Netherlands). (Note: — Webster defines ergonomics as the science that seeks to adapt working conditions to suit the worker.) Each of the 35 national committees of the CIE has the right to appoint one voting member and an unspecified number of consultants to the Division.

Initially the Division will have 17 technical committees, 5 on Vision, 8 on Color, and 4 on Visual Ergonomics. The titles and chairmen are listed below.

VISION

1) Mesopic Photometry — Chairman: J. A. Kinney (USA)
2) Spectral Luminous Efficiency Functions — Chairman: M. Ikeda (J)
3) Models of Heterochromatic Brightness Matching — Chairman: P. K. Kaiser (CDN)
4) Physiologically-Based System of Colour Specification — Chairman: R. M. Boynton (USA)
5) Brightness-Luminance Relations — Chairman: J. Roufs (NL)

COLOR

6) Chromatic Adaptation — Chairman: C. J. Bartleson (USA)
7) Observer Metamerism — Chairman: N. Ohta (J)
8) Color Difference Evaluation — Chairman: A. R. Robertson (CDN)
9) Standard Sources for Colorimetry — Chairman: D. Gundlach (FRG)
10) Colorimetry of Self-Luminous Displays — Chairman: J. J. Rennison (USA)
11) Illumination for Colour Reproduction — Chairman: W. N. Sproson (UK)
12) Relative Colour Rendering — Chairman: M. Halstead (UK)
13) Colour Appearance Analysis (Absolute Colour Rendering) — Chairman: M. R. Pointer (UK)

VISUAL ERGONOMICS

14) Lighting Effects on Vision — Chairman: P. Boyce (UK)
15) Visual Task Analysis — Chairman (not decided at meeting)
16) Prediction of Visibility — Chairman (not decided at meeting)
17) Specification of Visibility Meters — Chairman (not decided at meeting)

Several additional items proposed and discussed as potential technical activities of Division 1 included: (1) transient adaptation, (2) achromatic and chromatic thresholds, (3) disability and discomfort glare, (4) design of visual environments for the partially-sighted. No explicit action was taken on these matters at the Amsterdam meeting. They will be considered by the Division, together with additional proposals, at its next meeting just before or after the AIC Congress scheduled for June 16-20, 1985, in the Principality of Monaco.

If you have questions or comments on specific activities of Division 1 you may wish to communicate with one or more of the various committee chairmen. Many of them are members of ISCC and so their addresses appear in the ISCC Directory. Alternatively you may communicate with Dr. C. James Bartleson who heads the Color Section but who also is well informed on the potential activities of the Vision and Visual Ergonomics Sections.

Note: — Material in this report is taken in large measure from the report to the U.S. National Committee — CIE by C. James Bartleson, dated September 28, 1983.

Harry K. Hammond III

RECOMMENDATIONS FOR SURFACE COLOURS FOR VISUAL SIGNALLING

This is the title of a 1983 publication of the Commission Internationale de l’Eclairage designated CIE Publication No. 39.2. The object of these recommendations is to provide internationally standardized colors for visual signalling. The colors are a compromise between (1) reliable recognition, (2) satisfactory existing practice, and (3) limitations of manufacturing technology. The limits for the colors are defined in the CIE system and are recommended for international adoption; however, more restricted limits may be selected by users to suit national requirements or particular international applications.

These recommendations apply to all types of surface colors intended for visual signalling regardless of how they are produced. However, the publication contains separate sections on (1) ordinary colors, (2) fluorescent colors, (3) retro-reflecting materials, and (4) transilluminated signs. This material is useful in applications involving (1) transportation by land, sea or air, (2) warning signs, and (3) color coding.

The publication consists of 69 pages, but this is because the material is provided in three languages, namely English, French and German. Chromaticity recommendations for color limits are given in four plots of the CIE chromaticity diagram. The chromaticity limits are also contained in tables together with limits for luminance factor. Appended is a list of 11 references.
SUMMER PROGRAMS IN COLOR TECHNOLOGY TO BE HELD AT RIT

The Munsell Color Science Laboratory will present three nationally known courses on color technology this summer at the Rochester Institute of Technology (RIT). The courses—Principles of Color Technology, Color Technology for Management, and Advances in Color Technology—were part of an annual program that was presented for nineteen years by Dr. Fred W. Billmeyer, Jr., professor of analytical chemistry at Rensselaer Polytechnic Institute (RPI). He will be retiring from RPI in 1984 but will continue to be associated with this program as an adjunct RIT faculty member. The program will be directed by RIT’s Richard S. Hunter Professor, Dr. Franc Grum. Several guest speakers will be on the program.

RIT’s Munsell Color Science Laboratory was established last spring when the board of directors of the Munsell Foundation voted to dissolve the foundation and turn over its assets to RIT to fund the laboratory. Dr. Grum is developing the facility.

Color Technology for Management will be offered June 6-7, 1984. It covers the principles of color technology as they influence management decisions. The program explores the physical and perceptual aspects of color, color measurement, color differences and tolerances, and color matching. Typical problems in the production and sale of colored products will be confronted, and managerial solutions based on the principles of color technology will be presented. The course will show how to improve productivity by applying the principles of color technology to reduce waste and make better use of manpower and equipment. The course is designed solely for executive and management personnel responsible for the production and sale of colored products; those directly involved in color matching and color control are encouraged to enroll in either or both of the other two courses. Tuition for Color Technology for Management is $550.

Principles of Color Technology will be offered twice, June 11-15 and June 18-22, 1984. The course provides information on color description, color-order systems, measurement principles, color-difference calculations and tolerances, computer color matching, and colorant properties. Laboratory periods provide hands-on experience in measurement, computation and problem-solving using the latest commercial equipment. The course is of value to individuals from a variety of disciplines and organizational levels who are interested in color science, and especially to industrial personnel involved in color matching and color control. Attendance is limited to the number which can be accommodated in the laboratory sessions. Tuition is $650.

Advances in Color Technology will be offered June 25-29, 1984. It provides current, advanced-level information on developments in and techniques of color science and technology. Topics include instruments, calibration and measurement errors; terminology and standards; color spaces and color differences; color appearance; and turbid-medium theory and color matching. Selected advanced laboratory workshops are included. The course is designed for those with two or more years of direct experience in instrumental color measurement. Industrial personnel involved in color matching and color control at an advanced level are cordially invited. Elementary material is not included, and applicants without previous experience should enroll in Principles of Color Technology. Tuition for Advances in Color Technology is $650.

For more information on these programs, contact Brenda Reimherr, T&E Center Seminar Coordinator, Rochester Institute of Technology, One Lomb Memorial Drive, P.O. Box 9887, Rochester, NY 14623; (716)475-2757.

1984 CORM CONFERENCE

CORM 84, the 1984 annual meeting and conference of the Council for Optical Radiation Measurements, will be held at the National Bureau of Standards, Gaithersburg, Maryland, on Monday and Tuesday, June 4-5, 1984. The conference will include two symposia sessions and invited papers.

The first session will be on Low Level Radiometry, chaired by Dr. Klaus D. Mielenz of the National Bureau of Standards. The subject matter for this session will include the radiometric measurement techniques for the radiometry of such sources as bioluminescence, chemiluminescence, flames and star tracking, as well as detector linearity, attenuation and other metrology used in these measurements.

The second session will be on Array Radiometry, chaired by Dr. William D. Partlow of Westinghouse Electric Corporation. This session will involve the use of array instruments in measuring spectral power distributions of lamps, solar radiation and other sources. Available hardware capabilities, intercomparisons, applications, and related subjects will be discussed. This is a new area of activity at NBS.

Those desiring to contribute to the above two sessions should contact the session chairmen directly. For Low Level Radiometry contact Dr. Klaus D. Mielenz, B306, Metrology Bldg., National Bureau of Standards, Washington, D.C. 20234 (301-921-3864) and for Array Radiometry contact Dr. William D. Partlow, Westinghouse Electric Corporation, R & D Center,
There will also be invited papers on *Global Radiation* and *Remote Sensing* presented at the conference. These will survey these subjects with a view toward forming the basis for conference sessions at future CORM meetings.

At the annual business meeting there will be an opportunity to hear about the activities of the United Kingdom UV Spectrometry group. Also the NBS response to the 4th CORM report will be presented along with discussions related to a proposed National Standardization System for Spectrophotometry.

For further information, contact CORM secretary Norbert L. Johnson, 3M Center, Bldg. 582-1-16, St. Paul, MN 55144 (612-733-5939) or the session chairmen.
THIS SPACE RESERVED FOR CONTRIBUTIONS FROM ISCC MEMBER-BODIES
CALENDAR

AMERICAN CERAMIC SOCIETY
Annual Meeting, April 29-May 3, 1984, Pittsburgh, PA

ASTM
Symposium on Review and Evaluation of Appearance, May 23, 1984 — Montreal, Canada

AMERICAN SOCIETY OF INTERIOR DESIGNERS
National Conference, August 16-19, 1984, Chicago

FEDERATION OF SOCIETIES FOR COATINGS TECHNOLOGY
Annual Meeting, October 24-26, 1984, Chicago, IL

ISCC 1984 ANNUAL MEETING
April 8-10 — Michigan Inn, Southfield, Michigan

ISCC WILLIAMSBURG CONFERENCE
Color and Imaging, February 12-15, 1984

OPTICAL SOCIETY OF AMERICA
Annual Meeting, October 29-November 2, 1984, San Diego, CA

SOCIETY FOR INFORMATION DISPLAY
International Symposium, June 5-7, 1984 — San Francisco, CA

SOCIETY OF PHOTOGRAPHIC SCIENTISTS AND ENGINEERS
Annual Conference, May 20-24, 1984 — Boston, MA

TAPPI

PANTONE, INC. COLORS NEWSLETTER
A very generous donation of paper and color printing from Pantone, Inc. has restored the color spectrum to the front page of the Newsletter. The ISCC Board of Directors wishes to express its thanks to Pantone, Inc. for this tangible expression of support and help.

1. Any person interested in color and desirous of participating in the activities of the Council for the furtherance of its aims and purposes . . . shall be eligible for individual membership (By-Laws, Article I, Section 2). Application forms for individual membership may be obtained from the Secretary (address given above).

2. The Council reaffirms its community of interest and cooperation with the Munsell Color Foundation, an independent private foundation devoted solely to the advancement of color knowledge in science, art, and industry. It serves as Foundation Associate of the Inter-Society Color Council. The Council recommends and encourages contributions for the advancement of these purposes of the Munsell Color Foundation. For information, write to S. L. Davidson, 42 Kemp Avenue, Fair Haven, NJ 07701.

3. The Council promotes color education by its association with the Cooper-Hewitt Museum. It recommends that intended gifts of historical significance, past or present, related to the artistic or scientific usage of color be brought to the attention of Christian Rohlfing, Cooper-Hewitt Museum, 9 East 90th Street, New York 10028.

Deadlines for submitting items to be included in the Newsletter are: February 15, April 15, June 15, August 15, October 15, and December 15; in other words, the fifteenth of the even-numbered months.

Send newsletter items to:
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Hunter Associates Laboratory, Inc.
11495 Sunset Hills Road
Reston, VA 22090

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