

Inter-Society Color Council *News*



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specific objectives that, realistically, can be achieved in a reasonable time.

Our 1989 meetings are shaping up well. The Annual meeting in Chicago (April 9-11, 1989) will have "*Color in Architecture*" as its theme; the Williamsburg Meeting (1989 November 28 - December 1), on "*Color Discrimination Psychophysics*." Any suggestions for themes or sites for 1990 and beyond?

I look forward to seeing you at the Annual Meeting in Baltimore, May 8-10, 1988. Mark those dates on your calendar. Larry Tannas has a super program planned, and I know you will find the changes in the Project Committees and the initiation of Interest Groups refreshing.

A.B.J. Rodrigues, Ph.D.
President

FROM THE COLOUR GROUP (GREAT BRITAIN)

Excerpt from a Report of the 211th Meeting 1987 October 07

The Language of Environmental Colour – by Tom Porter

In domestic housing settings, paint provides language of place. On housefronts colour is used to signal territoriality, individuality and personality. Further functions involve the elaboration and intensification of architectural elements and the "magical" use of pigment in which brickwork can be transformed into stone via a skin of paint.

Architectural colour provides a precise language of place. Contextual systems of colour shift and change between regions, countries and continents. Within different systems colours can signal quite different meanings, such as the red on a Chinese temple, on a high-tech building, and in a fast-food outlet.

In France, Italy, Spain and many parts of America, architectural colour is taken seriously – an attitude that is not reflected in Great Britain. For example, in France there is the work of Jean Philippe Lenclos whose systematic classification of "permanent" or naturally found colours provides the basis for a logical assembly of architectural palettes which become applied to new buildings in order to define and maintain a sense of place in the face of colour erosion from materials that are "foreign" to the environment. There is also the work of Giovanni Brino in Italy and Switzerland. It was Brino who, almost single-handedly, restored the original colour plan of his native city, Turin. Brino had discovered colour archives dating back to 1800. This revealed a total colour plan for urban

PRESIDENT'S REPORT ON WINTER BOARD MEETING

Your Board of Directors met on January 22-23 in Clearwater Beach, Florida. Don't be too envious – the temperatures were in the 50-60° range. It was too cold for the beach and we had to work all the time! We got some very important things accomplished and I thought I should report this to you:

A committee of tellers counted the election ballots. We have three excellent directors who will take office at the Baltimore Annual meeting: Hilton Brown, Jim Cave and Nick Hale. Our congratulations to them and our thanks to the other candidates for their willingness to further serve ISCC.

The Board unanimously approved the Service Award Committee recommendation that the 1988 Nickerson Award be given to Ruth Johnston-Feller. She richly deserves this award for her many years of service, primarily to the project committees, but also in organizing conferences and color education. The award will be presented at the Baltimore meeting.

Fred Billmeyer was there, attending the ASTM meeting. We took advantage of this opportunity to present him with his Certificate of Honorary Membership, recently voted by the Board.

We reviewed Purposes, Scopes and Objectives of the eight active project committees. Problems Committee Chairman Hugh Fairman has worked diligently with them to develop

Turin. The original system was in place by 1850. It provided extensive colour palettes for the major processional routes through Turin which terminated in a sequence of major piazza's, such as the Piazza della Repubblica. Secondary and tertiary systems accounted for the less major streets and backstreets.

Against the backdrop of environmental colour use today, these systems seem to embody a rationale missing from the work of more modern architects. Colour in the modern environment appears as the result of whim and accident. As designers we have lost the art of three-dimensional coloration and reduced the creation of the built environment to a colorless science. This is borne out if we compare the work of so-called environmental "artists: with the projects of so-called "decorators" like Jakob-Ignaz Hittorff in France and Owen Jones in England. Hittorff was to produce several schemes for buildings in Paris based on his research into the architectural colours of antiquity. It was his work that triggered a "colour revolution" which began in the 1830's. This cycle of interest in architectural polychromy was to climax in the 1850's with Jones' coloration of Paxton's Crystal Palace. Both designers sought a colour system befitting the new age. Both men based their systems on foundations of known colour principles and laws of proportion.

Looking back over the past decade of a more recent resurgence of environmental colour interest, one finds little of the rigour embodied in the projects of Hittorff and Jones. Possibly colour expertise now resides in the persuasion and packaging of Madison Avenue ad men who seem well versed in the language of colour when it comes to marketing. It is my belief that we have lost the art of environment colour – remnants of it being found on humble facades, such as those along the Mersey in Toxteth. It seems to me that those uncontaminated by the bleaching action of an environmental design education seem to understand colour in architectural settings, i.e., as a language of time, space and place.

GEMSTONE DURABILITY CHART AVAILABLE FROM GIA BOOKSTORE

The Gemological Institute of America (GIA) Bookstore is now offering an easy reference chart that provides gemological guidelines for gemstone durability in jewelry.

The chart was first printed in the Summer 1987 issue of *Gems & Gemology*, the quarterly journal of the Gemological Institute of America, as part of an article entitled "Gemstone Durability: Design to Display," by Deborah Martin. "We've received a great number of requests for separate copies of the chart since the article first appeared," says Bob Kammerling, GIA's Manager of Marketing & New Projects. "Jewelry designers, retail salespeople and even experienced bench jewelers have called to tell us how invaluable they've found the informa-

tion. I'm happy to say that we can now offer laminated copies through the GIA Bookstore."

The gem materials most commonly encountered in Jewelry are covered in an easy-reference format. For each gem, the chart provides Mohs hardness, toughness, and possible enhancements, followed by ratings for the relative safety of each of the most popular styles of setting, and of each of the most common methods of repair and cleaning. Even the susceptibility of the stone to damage from the heat and light used in display is rated.

Laminated copies of the 11" x 16" chart are available for \$9.95 each. Include \$3.50 per order (\$4.50 outside the United States) for shipping and handling. California and New York residents add appropriate sales tax. There is a 10% discount for GIA Alumni Association members and colleagues (please include your GIA Alumni Association number when ordering). To order your charts, write to the GIA Bookstore, 1669 Stewart Street, P.O. Box 2052, Santa Monica, CA 90406. Or call TOLL-FREE nationwide (800) 421-7250, ext. 282 or (213) 829-2991, ext. 282. VISA and MasterCard orders are welcome.

A SECOND CALL FOR POSTER PAPERS !!!

The 1988 Annual ISCC meeting will feature a first in the history of the organization. A poster paper session acknowledging the work of you, the ISCC membership, will be held. In the past, we have used poster sessions with varying degrees of success to report on the ISCC project committee work only. In 1988 we plan on setting a precedent for providing each ISCC member with the opportunity to share his or her work in the area of color by presenting a poster paper rather than an oral presentation. The topics for the poster papers are completely open. Whether you are an artist, a scientist, an industrialist, an educator, a student, or a researcher, we welcome your poster paper entries in any area of color that you feel may be of interest to all. In spite of the fact that the annual meeting is not until May of this year, it is not too late to submit papers for this poster session. Here's your chance to familiarize us with the fascinating color work that you may be doing on a daily basis.

IT'S NOT TOO LATE TO SUBMIT!! Here are some of the allocation details. One hotel room will be designated solely for poster papers. Each paper will be given a four foot long space with from floor to ceiling height in which to fit the poster. There will be one foot separating each poster paper. Masking tape will be available to tape the lighter weight posters to the wall. Heavier posters can either be leaned up against the wall or easels can be rented to support them. The *deadline* for *informing* us of easel requirements or other setup needs is *March 24, 1988*.

Please send your entries, in the form of a title and abstract

to: Paula J. Alessi, 10 Bay Park, Webster, NY 14580.

Please feel free to call Paula at 716-477-7673 with any questions that you may have.

IT IS NOT TOO EARLY TO PLAN FOR THE 6th CONGRESS OF THE:

ASSOCIATION INTERNATIONALE DE LA COULEUR

COLOR 89

Buenos Aires, Argentina will be held at the Centro Cultural General San Martin Sarmiento 1551, March 13-17, 1989

The Congress is being organized under the general direction of the President of the AIC, Professor Dr. Heinz Terstiege, and of the AIC Executive Board of the Argentine Group Colour (Grupo Argentino del Color-GAC).

General Chairman: Lic. Roberto Daniel Lozano

Program Chairman: Dr. Lorenzo Plaza Montero

Financial Chairman: Lic. Cristino Melcon de Bellora

Arrangements Chairman: Lic. Antonio A. Alvarez

Provisional Program

The Program will consist of general sessions in the mornings and poster sessions and specialist sessions in the afternoons. All sessions will be held in large and medium lecture halls in the Centro Cultural San Martin which belongs to the Buenos Aires City Council.

At the general sessions, broad surveys on various aspects of color will be given by invited lecturers, while in the poster and specialist sessions contributions on more detailed aspects of color will be presented. Papers will be selected for oral or poster presentation trying to group them together when dealing with similar topics, and parallel sessions, if required will take place in adjacent lecture halls.

It is the wish of organizers to keep parallel sessions to the minimum possible and leave time for discussions on the topics of most interest.

Invited Survey Lectures

In keeping with the objectives of the AIC to provide, through its Congresses and Proceedings, a record of the state of the art and science of color at four-year intervals, the Congress will include approximately eight invited survey lectures presented by international experts, each dealing in depth with one aspect of color. The titles of these lectures and the names of the speakers will be announced at a later date.

Contributed Papers

Offers of papers, which may deal with any aspect of the science, art and technology of color must be submitted to the

Program Chairman with three (3) copies of an extended abstract of not more than 1000 words by September 10, 1988. The abstract, which will be published in the Proceedings, must be patterned following the guides which will be provided to each contributor, and may include one diagram.

Papers will be accepted in English, French or German, but the preferred language is English. Papers will be accepted subject to review by a Papers Committee chaired by the Program Chairman and authors will be notified regarding acceptance by November 1, 1988. The Papers Committee will be responsible for grouping papers into specialist sessions and the assignment of mode and time for their presentation.

BOOK REVIEW

ASTM Standard on Color and Appearance Measurement

2nd edition, compiled by ASTM Committee E-12 on Appearance of Materials by Richard S. Hunter, American Society for Testing and Materials, Philadelphia, 1987, 341 pps, paperbound. Price \$39.00; price to ASTM members, \$31.20.

It is unusual in many news media to review second and subsequent editions of books unless there is a compelling reason. But the color field is not overwhelmed with pertinent publications, and in this reviewer's opinion the ASTM compilation reviewed here is an important contribution. The first edition (1984), reviewed earlier (*ISCC News* No. 290, May-June, 1984, pp. 27-28), sold out rapidly and the second edition followed quickly.

It is worthwhile repeating, from a review of the first edition published in *Color Research and Application*, Vol. 10, Summer 1985, pp. 122-123, the comprehensive list of topics covered in this compilation: color, color difference, gloss, image clarity, haze, turbidity, opacity (hiding power), reflectance, transmittance, transparency, yellowness, whiteness, spectrophotometry, colorimetry, and goniophotometry. Special mention should be made of several standards that do not concern instrumental methods. Among these are E 284, Definitions of Terms Relating to Appearance of Materials, D 3134 on selecting and defining color and gloss tolerances, and a number of visual methods, including D 1535, Specifying Color by the Munsell System, D 1729 on the visual evaluation of color differences, and D 2626, Evaluating Change in Color with a Gray Scale. Thus readers who are not instrument users will still find much of interest in this book.

What does the user of the second edition of this compilation get in the 100 additional pages (but without an increase in price)? Ten additional standards have been reprinted, making the total so treated 44, and six of those in the first edition have been revised since its publication. Thus there are essentially 16 new standards presented. In addition, the list of

standards cited by title now numbers 76, up from 73. There is one new table in the introduction, listing standards by variables and materials. A very useful key-word index has been added.

Seven of the ten new standards were previously listed by title. (The group listed by title consists largely of standards in which a method is applied to a specific material, and thus the compilation does not suffer much by not having their full text.) Of the ten new ones, those of most interest to our readers may be D 4039, *Method for Reflection Haze of High-Gloss Surfaces*, and D 4086, *Practice for Visual Evaluation of Metamerism*. Major revisions in D 2244, now titled *Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates*, and E 308 now titled *Method for Computing the Colors of Objects by Using the CIE System*, are of major significance.

One would still like to see a few changes. Listed by title that could well be included in full are D1746 and D 2547, dealing respectively with transparency and gloss of plastic films, but providing methods that are not covered in more general standards and might be useful in solving problems with other materials, and D 3928 and D 4449, giving very useful visual methods for gloss comparisons. And D 4001, which should have been dropped from the title listing, was not; although it was written by the author of this review, it has nothing to do with appearance.

What can we expect in a third edition, somewhere down the line? ASTM E-12 has been very active recently, with a number of new and extensively revised standards in the works. E 284, *Definitions of Terms Relating to Appearance of Materials*, is in the middle of extensive additions that will about double its size. E 1164, *Practice for Obtaining Spectrophotometric Data for Object-Color Evaluation*, issued recently but is already being extensively augmented. And there are several test methods for both spectrophotometry and colorimetry using various instrument geometries referring back to E 1164 that are out for ballot for approval. A major revision of E 179, now titled *Guide for Selection of Geometric Conditions for Measurement of Reflection and Transmission Properties of Materials*, is on its way to final approval. And several more specialized standards are in various stages of completion. Those needing these documents as soon as they issue need not wait for another edition of the compilation, for all ASTM standards can be purchased separately and are found in the collected *Books of ASTM Standards* in many libraries.

Fred W. Billmeyer, Jr., 29 Dec. 1987

INTEREST GROUP II ACTIVITIES FOR THE 1988 ANNUAL MEETING

As Co-chairmen of Interest Group II, called *Appearance, Vision, and Modeling*, Norman Burningham and Paula Alessi

would like to inform the ISCC membership that the first meeting of this group will be held in Baltimore at the 1988 Annual Meeting. Since the interest group concept is new to us this first meeting will be an organizational and planning meeting for one and one half hours.

Topics for discussion will center around how the future "half day sessions" of this interest group will be run at subsequent annual meetings. Here are some of the questions we hope to answer at our first meeting:

1. What do we mean by *appearance, vision and modeling*?
2. Do we want to target contributed and/or invited papers?
3. Do we want to coordinate panel discussions on a color problem of common interest?
4. Do we want to serve as a forum to which others bring color problems in the hope of finding solutions?
5. Will each year feature a mixture of the three areas (appearance, vision, modeling) or will we rotate with concentration on perhaps one topic per year?

In the next issue of the news we will describe some of our preliminary thoughts on answers to these questions as co-chairman of interest group II. For the time being we challenge you to give these questions some thought so that we can make this interest group a valuable experience for all.

Normal Burningham and Paula J. Alessi

PRIZE COMPETITION ANNOUNCED

The MOET-HENNESSY Group, a leader in champagne, cognac and cosmetics industries is organizing the 1988 MOET-HENNESSY INTERNATIONAL SCIENTIFIC PRIZE-AWARD on the theme of: APPEARANCE OF MATERIALS "Innovations in formulation and application for the creation of visual effects."

This international competition is aimed to all scientific surveys or innovative applied technical works, dealing with the interactions between light, matter and visual perception.

The presented projects should be applicable or at least, related to industries dealing with vision such as dyes, make-up cosmetics, photography, coating, inks, graphical arts, artistic paintings. . . .

Innovation may concern not only materials, structures or formulation, but also devices for their application.

Two first prize-awards (one scientific and one technical) worth FF 100,000 each (ca US\$18,500) will be attributed.

For full information, please contact: Mr. Michel Bonnaffe, MOET-HENNESSY US Corp., 30 Cooper Square, New York, NY 10003, Tel: (212) 529-9190.

IN THIS ISSUE

Over the years, several methods have been proposed for the calculation of spectral power distributions or reflectance

curves that are metameric. A specific situation applies to the latter group. Sets of reflectance curves are metameric if the objects they represent match when viewed in one light and may not match when viewed in a second, spectrally different light. How to maximize or minimize such effects for particular light sources is the subject of James Worthey's article *Calculation of Metameric Reflectances*. According to the author, "The central idea was inspired by Matrix R and the conference with Jozef Cohen in Rochester in 1986."

There are a number of color scales and corresponding sample sets in existence. (For a review see F. W. Billmeyer, Jr., "Survey of Color Order Systems," in the August 1987 issue of this journal.) Some of them are claimed to be uniform, i.e. equal geometric distances in the system correspond to perceived color differences of equal magnitude. Joann Taylor and Fred Billmeyer have investigated domains in the Optical Society of America Uniform Color Scales for uniformity using multidimensional scaling methods and report their results in *Multidimensional Scaling of Selected Samples from the Optical Society of America Uniform Color Scales*.

Color reproduction is of much interest in printing of illustrations in books, journals and advertising. The apparent quality of reproduction can be influenced by the background or surround of the illustration. In *Colour-Distance Judgment and the Influence of the Background in Colour Reproduction*, Ursula Schultz discusses the complex effects that can occur.

The fact that the human retina is not uniform is well established. The existing non-uniformities have distinct effects on the perception of colored fields depending on where they are located in the visual field. In an experiment described in *Spectral Tuning of Opponent Channels if Spatially Dependent*, Marcia Finkelstein investigated certain effects of these geometrical non-uniformities.

Computer color matching is overwhelmingly based on the Kubelka-Munk model of absorption and scattering of light by objects. How to measure samples so that the measurements conform best to the assumptions of the Kubelka-Munk theory and provide accurate results in the formulation of samples of various surface condition has long been a subject of discussion. Danny Rich has investigated the problem using modern instrumentation and reports his results and conclusions in *The Effect of Measuring Geometry on Computer Color Matching*.

The Swedish Natural Colour System (NCS) is a color order system based on special claims. One of these is that any observer has a built-in set of six fundamental color concepts (white-black, yellow-blue, red-green) and can with good reproducibility determine for any perceived color its content of the six fundamentals. Based on this claim and by providing a numerical framework for the judgments, the NCS would be particularly suitable for architects and other workers interested in specifying colors accurately outdoors where other ob-

jective methods are difficult or impossible. In *The Conceptual NCS: An Empirical Investigation*, Whitfield, O'Connor, Powell, and Wiltshire report on their investigation of this claim.

The most frequently used technique in computer colorant formulation is that of matching the tristimulus values of the standard using a set of algebraic equations which, in effect, duplicate the calculation of the tristimulus values of the sample to be matched. The colorant concentrations are the unknowns for which values can be found by standard algebraic methods. Another technique recently discussed in this journal (Cogno et al. "Linear and Quadratic Optimization Algorithms for Computer Color Matching," February 1988 issue) involves linear or quadratic programming to match the reflectance curve of the standard with minimal deviation. In *Recursive Quadratic Programming Algorithm for Color Matching*, J.A. Cogno describes yet another approach to the problem.

The proliferation of personal computers with color display and other digitized color video displays make simple and acceptable hardcopy reproduction of the generated colored images more and more desirable. In *From Softcopy to Hardcopy on a Desert Island*, Michael Brill and Neal Panken describe a minimalistic approach that despite its simplicity can produce surprisingly acceptable results.

CALENDAR

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

Harry K. Hammond III
Pacific Scientific Instrument Division
2431 Linden Lane
Silver Spring, Maryland 20910
(301) 495-7046

1988

AMERICAN SOCIETY FOR PHOTOGRAMMETRY & REMOTE SENSING, ANNUAL CONVENTION, Mar. 13-18
St. Louis Convention Center, St. Louis, Missouri. Information: Mary Buit, (703) 534-6617.

4th INTERNATIONAL CONGRESS & EXHIBIT ON ADVANCES IN NON-IMPACT PRINTING TECHNOLOGY, Mar. 20-25
Fairmont Hotel, New Orleans, Louisiana. Information: Pam Forness, (703) 642-9090.

ASTM COMMITTEE D-20 ON PLASTICS, Mar. 21-24
Sheraton Hotel, Boston, Massachusetts. Information: Robert Morgan, (215) 299-5505.

AATC EDUCATIONAL WORKSHOP, Mar. 23-24
Testing of Automotive Textile Products, AATCC Technical Center, Research Triangle Park, North Carolina. Information: Jerry Tew, (919) 549-8141.

QUALITY EXPO TIME, Apr. 12-14
O'Hare Expo Center, Chicago, Illinois. Information: Steven Bernstein, (312) 299-3131.

ISCC DIRECTOR'S MEETING, May 6-7
Sheraton Inner Harbor Hotel, Baltimore, Maryland.

ISCC ANNUAL MEETING, May 8-10
Sheraton Inner Harbor Hotel, Baltimore, Maryland.
Information: Therese Commerford, (617) 651-5469.

ASTM COMMITTEE E-12 ON APPEARANCE, May 11-12
Sheraton Inner Harbor Hotel, Baltimore, Maryland.
Information: Robert Morgan, (215) 299-5505.

AATCC NAT'L TECH COMMITTEE MTGS, May 10-12
AATCC Technical Center, Research Triangle Park, North Carolina. Information: Jerry Tew, (919) 549-8141.

COUNCIL FOR OPTICAL RADIATION MEASUREMENTS (CORM), Annual Meeting, May 18-19
National Bureau of Standards, Gaithersburg, Maryland.
Information: Norbert Johnson, CORM Sec'y, (612) 733-5939.

SPSE 41st ANNUAL CONFERENCE, May 22-27
Hyatt Regency Hotel, Crystal City, Arlington, Virginia.
Information: Pam Forness, (703) 642-9090.

SOCIETY FOR INFORMATION DISPLAY, May 23-27
International Symposium, Seminar and Exhibition, Disneyland Hotel, Anaheim, California. Information: (213) 305-1502 or (212) 620-3388.

AMERICAN CHEMICAL SOCIETY, June 5-10
195th Spring National Meeting and Third Chemical Congress of North America, Toronto, Canada. Information: (202) 872-4398.

COLORIMETRY: AN INTENSIVE SHORT COURSE FOR SCIENTISTS AND ENGINEERS, June 6-9 & 13-16
Munsell Color Science Laboratory, Rochester Institute of Technology, Rochester, New York. Information: (716) 475-5842.

INSTITUTE OF FOOD TECHNOLOGISTS, June 19-22
Annual Meeting and Food Expo, New Orleans Convention Center, New Orleans, Louisiana. Information: David E. Weber, (312) 782-8424.

NATIONAL PLASTICS EXPO, June 20-24
Society of Plastics Industry, McCormick Place, Chicago, Illinois. Information: Jordon Morgenstern (202) 371-5200.

ASTM COMMITTEE D-1 ON PAINT, June 26-29
Baltimore, Maryland. Information: (215) 299-5543.

SYMPOSIUM ON PHOTOCHEMISTRY FOR IMAGING, June 26-29
Best Western White Bear Country Inn, White Bear Lake, Minneapolis, Minnesota. Information: Pam Forness, (703) 642-9090.

COLOR: THE EDUCATOR IN ART & DESIGN, June 27-30
ISCC-FIT Seminar (Note date change). Fashion Institute of Technology, 227 West 27th Street (at Seventh Ave.), New York, New York 10001. Information: FIT Seminar Dept. (212) 760-7715.

ASTM COMMITTEE D-20 ON PLASTICS, July 11-14
Town and Country Hotel, San Diego, California, Information: Robert Morgan, (215) 299-5505.

ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA, Aug. 7-11
Annual Conference, Minneapolis Marriot Hotel, Minneapolis, Minnesota. Information: Diane Darrow, (212) 705-7269.

AIC MID-TERM MEETING, Aug. 8-11
Color in Environmental Design, Winterthur Polytechnic; Winterthur, Switzerland. Information: Prof. Werner Spillman, Dept. of Architecture, 8401 Winterthur, Switzerland.

AMERICAN PSYCHOLOGICAL ASSOCIATION, 96th ANNUAL CONVENTION, Aug. 12-16
Atlanta, Georgia. Information: (202) 955-7705.

AMERICAN SOCIETY FOR PHOTOGRAMMETRY & REMOTE SENSING, Sept. 12-16
Fall Convention, Convention Center, Virginia Beach, Virginia. Information: Mary Buit, (703) 534-6617.

AATCC 88 INT'L CONF. & EXHIBIT, Sept. 38-Oct. 1
Opryland Hotel, Nashville, Tennessee. Information: Jerry Tew, (919) 549-8141.

SOCIETY FOR INFORMATION DISPLAY, Oct. 4-6
International Display Research Conference (IDRC), Hyatt Islandia Hotel, San Diego, California, Information: (213) 305-1502 or (212) 620-3388.

ASTM COMMITTEE D-20 ON PLASTICS, Oct. 10-14
Toronto, Canada. Information: Robert Morgan, (215) 299-5505.

OPTICAL SOCIETY OF AMERICA, ANNUAL MEETING, Oct. 31-Nov. 4
Santa Clara Convention Center, Santa Clara, California. Information: (202) 223-0920.

Send materials for publication to:

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ISCC ANNUAL MEETING MAY 8-10, 1988

The Inter-Society Color Council Annual Meeting will be held May 8-10 at the Sheraton Inner Harbor Hotel, Baltimore, Maryland. The Society for Information Display, a member body is jointly sponsoring the technical program "CRT to Hard Copy in Color".

This annual meeting will see the implementation of the Board of Directors resolution to restructure the former Project Committees into Interest Groups and better defined Project Committees. The afternoon of May 8 through lunch on May 9 will concentrate on ISCC Project Committees, Interest Groups and other ISCC business including the annual business meeting.

Mr. Nick Hale, Meeting Chairman, has planned a very full schedule of events including a cocktail party and dinner at the National Aquarium. All displays will be open and available for touring at that time. The Inner Harbor Sheraton is centrally located and provides easy access to the well-known restaurants and shops of the renovated Inner Harbor area.

The General Program Session will begin the afternoon of May 9 and will continue through Tuesday, May 10. Mr. Lawrence Tannas, Jr. (SID), Program Chairman, includes the following sessions in the program: Hard Copy Technology. CRT Technology, CRT to Hard Copy. The present Program includes the following papers: "Color and the Hard Copy Printer, Ross N. Mills; "Color Representation in Page Description Languages", Mary Ann Dvorch; "A Colorimetric Halftoning Algorithm for Four-Color Printers", Peter G. Engledrum; "Algorithms for Fast Colour Correction", A. W. Paeth; "Color and the CRT", Lawrence E. Tannas, Jr.; "Characterization of CRT and Hard Copy Devices, Theory", William Cowan; "Characterization of CRT and Hard Copy Devices, Instrumentation", Justin J. Rennilson; "The Colorimetric Calibration of a CRT Imaging System for Color Appearances Research", Ricardo J. Motta and Roy S. Berns; "An Evaluation of Methods for Producing Specific Colors on CRTs", David L. Post; "A Matrix Color Correction Scheme for Color Electronic Printers", Gary K. Starkweather; "Optimizing the Principles of Digital Colour Reproduction on the Basis of Visual Assessment of Reproduced Images", Pekka Laihanen; Tektronix HVC Color System', Joann M. Taylor; and "CRT to Print - An Empirical Procedure", Mik Lamming.

In addition to the technical paper sessions, Ms. Paula Alessi has planned poster sessions for the late afternoon of May 9.

A registration form is enclosed for your convenience. Please register early to enjoy all the business and social events planned.