Inter-Society Color Council *News*

IN THIS ISSUE

Number 322 November/December 1989

ISCC NOMINATING COMMITTEE REPORT

The nominating committee reported to the board of directors at its fall meeting in Rochester, NY. As you know, officers are elected biennially to serve terms of two years. The committee has selected Paula Alessi as the candidate for President-elect. Terry Commerford, who has served us so well as secretary, has found it necessary to decline nomination for another term in that capacity. The committee then prevailed upon Dr. Dan Rich to accept nomination for that office. There will be some redistribution of the duties associated with the office of secretary. This redistribution of responsibility is necessary and will require adjustment to the by-laws. *Naturally, just after a complete review—Murphy strikes again.* Mr. Philip Hunter has agreed to stand for reelection to the post of treasurer. As requested by the delegates a few years ago, the committee nominates only one candidate for each office. Members of the board of directors are selected from a slate submitted by the nominating committee which includes a greater number of candidates than the number to be elected. The candidates, this year, each to serve a 3 year term, from 1990-1993 are: Sally Graves, Nancy Jo Howard, Romesh Kumar, Anne Laidlaw and Bill Thornton (3 to be elected). Other candidates, for any office or a seat on the board, can be nominated by the submission of a petition signed by five voting delegates.

WE WISH YOU A

COLORFUL HOLIDAY SEASON!

INTER-SOCIETY COLOR COUNCIL 1990 ANNUAL MEETING-SCAI CONFERENCE

The annual meeting of the Inter-Society Color Council will be held April 22-24, 1990 at the Cleveland Airport Marriott. The theme will be "The Art and Science of Appearance". Project Committees and Interest Groups focusing on Measurement and Colorimetry; Appearance, Vision and Modeling; Art Design and Psychology; and Color Education will meet Sunday and Monday. There will be a wine and cheese reception Sunday evening.

The Symposium on Color and Appearance Instrumentation (SCAI), on April 25 and 26, will follow the ISCC meeting. To bridge these two meetings, a special program is designed for April 24, which will be co-sponsored by the ISCC and the Cleveland Society for Coatings Technology. The program will feature speakers on topics such as: Procedures for Accurate Instrumental Colour Measurements; The Color-Communication System; Standardization and QC of Color Appearance by Use of Instrumentation; An Instrumental Method of Visual Tolerancing; Coloristic Characterization of Metallic and Pearlescent Pigments by Multiangle Measurements; and Coloristic Properties of New Effects, Pigments and Their Combinations in Comparison to Classical Metallics.

For further information concerning either of these back to back meetings, please contact ISCC chairpersons Ms. Jacqui Welker [(216) 671-0050] or Mr. James Grady [(313) 585-7200]. Registration information will be announced at a later date.

Lodging reservations may be made directly with the Cleveland Airport MARRIOTT [(216) 252-5333]. The ISCC-SCAI conference should be mentioned when making reservations in order to receive the discount rate.

FROM THE PRESIDENT

The ISCC Board of Directors met in Rochester, New York, on October 13-14. An important part of the agenda was approval of the the nominating committee's candidates for officers and directors. The nominating committee this year is composed of Dr. Nancy Jo Howard, Mrs. Bonnie Bender; Mr. Louis A. Graham, a past president; Mr. Hugh S. Fairman, ISCC President- Elect; and is chaired by Past President Allan B.J. Rodrigues. You will find an article about the outstanding individuals nominated by the committee and approved by the Board elsewhere in this issue of the ISCC News.

There was a special problem this year because Ms. Therese Commerford, who has served as Secretary since 1982, could not run again. Terry said that she would like to remain, in spite of the work entailed, but her responsibilities at the Army's Natick R&D&E Center would not permit it. In many ways the secretary's office has been the mainstay of the Council. In addition to providing extensive minutes of all Board meetings, the Secretary has maintained all the membership records of the Council, corresponded with new members, provided addressed mailing envelopes for the ISCC News and any special mailings, conducted all balloting, had a major hand in preparing the Membership Directory and has stored research reports and back issues of the ISCC News.

In the early years of the Council the Secretary had the support of staff at the company or organization where he or she worked. Often the Secretary had a secretary who also attended ISCC meetings and assisted with the work. Most companies can no longer afford to offer this support. It was realized that it would be difficult to find someone of Terry's abilities who would be able to devote the time necessary to do the things that have traditionally been done within the secretary's office; therefore, the executive committee began discussions several months ago on other approaches. One possibility is to reorganize the office giving some of the Secretary's responsibilities to other officers and standing committee members, and another would be to hire a management company take over some of the Secretary's duties. A management company was asked to estimate what they would charge to assume those duties. Their estimate indicates that Terry has been donating services to the Council worth $15,000 -$20,000 a year.

To cover this estimated expense, membership fees and registration fees would have to be more than doubled. The Board felt the character of the Council would be changed; therefore, an ad hoc committee has been established to recommend ways that some of the Secretary's duties could be divided among other committees. The committee is headed by the new candidate for Secretary, Dr. Dan Rich. It includes Membership Chairman, Mr. W. N. (Nick) Hale, who has been willing to take major responsibility for planning the reapportionment of responsibility between the secretary's office and the membership committee. Within the membership committee Ms. Ann Laidlaw has agreed to be responsible for maintaining the membership list and the necessary contacts with new members and the treasurer's office. Ms. Sally Graves, Chairwoman of the Publicity Committee, will also cooperate where the secretary's duties dovetail with those of her committee. Dr. Norman Burningham expressed an interest in assisting in adjusting the responsibilities of the secretary's office and also serves on the committee.

This is a time to properly honor Terry and the other individuals, such as Dr. Fred W. Billmeyer, Jr., who have given the time and effort necessary to make the ISCC a prestigious organization and still keep dues low enough to allow anyone with a strong interest in color to belong. Close cooperation between a number of individuals will be necessary in order to continue the level of efficiency and accomplishment of the past.

At last the new ISCC lapel pins have been received. These were selected by the Board of Directors and ordered a year ago. The overseas company that manufactures ceramic lapel pins burned to the ground and the U.S. company where the order was placed went bankrupt; however, after many delays the order was filled. I believe you will find the pins attractive. They will be on sale for $3 at the next annual meeting in April 1990.

The Board also asked Mr. William House of the Center for Creative Studies of the Detroit College of Art and Design to design a special pin to be presented to individuals who have done exceptional work for the Council. He donated his time and expertise and his design was gratefully accepted by the Board last January. Due to concern that his design might be lost in the confusion following the fire, as two copies of the design for the regular pin were lost, Bill's design has been held until now. It is being sent to another company with the hope that by now the overseas manufacturer's situation is stable.

The revised ISCC Constitution, By-Laws and Standing rules have been approved. A copy has been prepared by the by-laws committee chairman, Dr. Fred W. Billmeyer, and will be mailed to voting delegates, officers, directors, and chairpersons of standing committees and interest groups. When the Guidelines for the ISCC, officers, standing committees and chairpersons of ISCC meetings are completed, all the documents will be combined and made available.

Joy Luke

INTERNATIONAL COLOUR ASSOCIATION (AIC)

Proceedings of the 6th Session of the AIC, Color 89, held in Buenos Aires, Argentina in March 1989 are now available. Volume I includes the invited lectures, opening and closing sessions, panel discussions, general discussions, participant list and post deadline papers. Volume II includes all poster and contributed papers. They may be ordered from: Grupo Argentino del Color, c/o INTI - Sector Fisica Ind., C.C. 157, 1650 San Martin (BA), Argentina. Payment of US $60 plus $20 mailing charges can be made by check or money order. It is advisable to send checks by registered mail.

Allan Rodrigues

AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC) AND ISCC COSPONSOR CONFERENCE IN COLONIAL WILLIAMSBURG, VIRGINIA—FEBRUARY 26, 1991

The ISCC and the AATCC will co-sponsor a conference on the colorfastness of materials exposed to natural or to manufactured sources of light. The objectives of the conference are to stimulate research and to exchange knowledge on the complex interaction of photoinitiated reactions within a material that affect the color stability of materials exposed to interior illumination. The two and one half day program will include invited and contributed papers. A conference proceedings consisting of summaries of the papers will be available at the conference.

The program committee solicits papers on all aspects of the effects of light on the colorfastness of materials. By colorfastness we refer to resistance to the photodegradative effect generated by prolonged exposure to a source of radiant energy that alters the perceived original color of the exposed object. Subjects to be discussed may consider spectral responsivity, effects of light intensification, action and activation spectra, exposure methods and methods of evaluation, relating the attribute of color to causative effects of exposure, colorant/material compatibility, or the transfer of fundamental knowledge to applied research. From the conservator of fine art to the manufacturers of business machines to the packager of grocery products, colorfastness to interior lighting can be a problem. Artists' pigments, graphic arts, photographic color prints, inks, all may be exposed to prolonged intervals of radiation from manufactured sources. Particular attention will be given to papers reporting advances in the study of colorfastness to interior lighting.

Information for potential Contributors: Abstracts must be received by the program committee not later than 1 June 1990. Authors will be notified of acceptance by 1 July 1990. Summaries, not to exceed four pages, will be required and must be received by 15 September 1990. The authors, their affiliations, the address and daytime phone number and FAX number, the title and abstract shall be typed on one page. Submissions and requests for additional information should be sent to: Jacqui Welker, PPG Industries, 3800 West 143rd. Street, Cleveland, Ohio 44111.

REPORT FROM INTEREST GROUP IV—COLOR EDUCATION

At the ISCC Annual Meeting last spring, a five member panel composed of Anna Bliss (artist, architect), Cynthia Brewer (new educator/graduate student), Roland Connelly (industrial educator), and Ralph Stanziola (industrial educator) discussed concepts and terminology of color as they relate to art, science and industry.

The intent was to define a uniform approach to the discussion and demonstration of topics that most color educators cover in their courses. Some of the topics discussed were color mixing, metamerism, and colorimetry/spectrophotometry. Slides showing how an architect can interpret and use some of these concepts were presented.

As a result of this we see that there is an obvious need for clarification of terminology (e.g., metamerism/paramerism/color constancy; additive/subtractive/partitive mixing) and appropriate demonstration material including samples for student or instructor use. There is also a need for clarification of the differences and similarities between colorimetric measurements and visual appearance. Again, samples and demonstration materials are essential.

The discussion that followed pinpointed the following problem. The concepts that were targeted are almost impossible to teach, in a reasonable amount of time, unless the instructor has access to appropriate demonstration materials and samples. It is important that the materials prepared have maximum flexibility, i.e., be able to be used equally well in an art, science, or industrial setting. In view of this, members of Interest Group IV are defining a series of problems/concepts and a new problem committee will be formed to compile demonstration materials and samples for a limited number of these during the next twelve months. Prototypes should be available for review, revision and/or refinement during a working session of this group during the next annual meeting.

Evelyn Stephens and Nancy Jo Howard

Interest Group IV will focus its next meeting (during the Annual ISCC meeting in Cleveland, April 22-24, 1990) on the following topics:

Student Chapters of ISCC at various campuses

Laboratory exercises in Color Courses (Science/Non-science orientation)

Career opportunities in "Color" (School/slide presentations)

Publicity for Interest Group IV

New project committees for the above or related topics may be formed at this meeting.

A detailed agenda will be printed in the next issue of the ISCC News and will be available by mail prior to the meeting by calling

Nancy Jo Howard (215) 951-2888

or Evelyn Stephens (212) 760-7871

Evelyn Stephens

PROJECT COMMITTEE #48

Slide Collection for Color Education

Requests for well prepared, accurate visual material have been frequently directed to the Color Education group. The need for coverage of basic topics in a flexible format for many different types of audiences has defined the objectives of this project committee. Six topics have been targeted for development during the next twelve month period: (1) vision, (2) lighting, (3) color order systems, (4) light/object interaction, (5) colorimetry, and (6) color mixing.

Each topic will be available separately in a set of twenty slides, with an accompanying script and bibliography for further reading. The cost will cover the above material, postage, and for non-members, may also include the membership fee for ISCC. Collaboration with the International Color Association (AIC) will also allow translation of the script and distribution of the slide sets on an international basis.

Prototypes of these six sets are to be available during the 1990 ISCC annual meeting for final review and approval by the committee before orders are taken. Additional topics will be developed in subsequent years.

Nancy Jo Howard, Chairman

CALLS FOR PAPERS: ISCC 1990 Annual Meeting: Art and Science of Color April 22-24, 1990, Marriott Hotel, Cleveland, Ohio

Interest Group I

Spectrophotometry and Colorimetry

We are pleased to announce a general call for papers for the 1990 annual Interest Group meeting which will be held during the ISCC April 22-24, 1990. This papers session was first announced during the 1989 meeting. The Session will run for about 3 hours and papers of varying length (from 5 to 20 minutes) will be presented. The theme of the session will be "Practical Solutions to Difficult Measurement Problems". If you have a special or unique measurement technique that you would be willing to share with others who are interested in color measurement and color evaluation we strongly encourage you to contact the Interest Group Co-Chairmen at the addresses given below. This interest group is for the benefit of the Individual Member Group (in particular) and your participation will guarantee its success.

Dr. Dan C. Rich, Applied Color Systems, Inc. P.O. Box 5800, Princeton, NJ, 08543; Tel. (609) 924-2189; and Dr. Roy Burns, The Munsell Color Lab, R.I.T.; P.O. Box 9887; Rochester, NY, 14623

Interest Group II

Appearance, Modeling and Vision

During our first meeting in Baltimore the ISCC introduced the concept of interest groups. This is a new structural element of the ISCC, and thus, we began the exploration of topics with several invited speakers. We continued this idea at the Chicago annual meetings, with a symposium on Color Appearance Models. Leading scientists made presentations on this vital, current issue. As we now look ahead to the ISCC Annual Meeting in Cleveland (1990), we would like to broaden the scope of participation. This can be done, if practitioners of our particular area of color science are willing to share their insights and the results of their work in an open session of contributed papers. To that end we are making a general call for papers. We are particularly interested in any work which could further clarify applications or evaluations of appearance models. However, any papers relating to the broad scope of appearance, modeling and vision would be welcome. The papers should generally not exceed about 20 minutes in length although we could consider making provision for special presentations that may be longer. Please submit titles, abstracts and any questions to either of the addresses listed below by February 15,1990. With broad participation we look forward to a dynamic meeting in Cleveland.

NORMAN BURNINGHAM
357 TRUE HICKORY DRIVE
ROCHESTER, NY 14615
VOICE (716) 722-7474
FAX (716) 722-7693

PAULA ALESSI
EASTMAN KODAK COMPANY
ROCHESTER, NY 14650-1925
VOICE (716) 477-7673
FAX (716) 477-0127

Interest Group III

Art, Design, and Psychology

Interest Group III solicits papers for presentation at the annual meeting relating to the general topics of art, design, and psychology related to color. Please submit titles, abstracts and any questions to either of the addresses listed below by February 15, 1990.

MR. WADE S. THOMPSON
SOUTHWEST MISSOURI STATE UNIVERSITY
2106 EAST SWALLOW STREET
SPRINGFIELD, MO 65804
TEL: (417) 882-2553

MS. MAGENTA YGLESIAS
DESIGNARE, LTD.
1820 KALORAMA SQUARE, N.W.
WASHINGTON, DC 20008
TEL: (202) 462-4944 or 328-2120

The objectives of the Interest Group III Session at the 1990 Annual Meeting will be twofold: to provide a forum for conversation concerning color between the Arts and Sciences; and to stimulate and exchange information on color in the disciplines of Art, Design and Psychology.

Art - Working professional artists utilizing color will address structural, inter-active and aesthetic aspects of their work.

Design - An architect and a product designer with specialities in addressing the needs of the disabled will ask questions and seek answers from the color professionals in the ISCC.

Psychology - A specific completed research project formulated to test the physiological effects of color on normal human subjects will be presented.

COUNCIL FOR OPTICAL RADIATION MEASUREMENTS (CORM) ANNUAL MEETING

Rochester Institute of Technology (R.I.T.) will serve as host of the annual meeting of (CORM), May 8 to 10, 1990. CORM90 will be held in RIT's new Chester F. Carlson Memorial Building, which houses the landmark Center for Imaging Science and the Munsell Color Science Laboratory.

The conference, "Quality: The Key to Optical Radiation Measurements", features three sessions on the topic of characterizing and minimizing total measurement uncertainty. The first session includes general principles of measurement accuracy, precision, traceability, uncertainty, and measurement assurance. The second and third sessions present papers in the disciplines of "Radiometry" and "Optical Properties of Materials", the latter of which will emphasize color.

CORM is now soliciting contributed papers on these subjects. Emphasis should be placed on the need and practice for making "quality" measurements in the field of optical radiation measurements. One of the conference objectives is to increase user awareness and provide an educational forum. As such, papers that focus on implementing existing methodologies or historical reviews are welcome.

Papers are anticipated from national standards laboratories, academia, and industry. Emphasis should be placed on the need and practice for making "Quality" measurements in the field of optical radiation measurements.

The conference also will include the Franc Grum Memorial Lecture, the annual banquet, and a tour of RIT's Munsell Color Science Laboratory Standards facility and the new Chester F. Carlson Building, to be dedicated Oct. 28, 1989. Visitors also may tour RIT's Center for Computer and Microelectronic Engineering and Rochester's International Museum of Photography at the George Eastman House.

RIT, recognized as the national leader in imaging science education, offers the nation's only graduate degree in color science. RIT also is the only university in the United States to offer both undergraduate and graduate degrees in imaging science and is planning to offer the nation's first doctoral degree in this emerging discipline.

Those wishing to present a paper or seeking additional information should contact the program coordinators: Dr. Roy Berns, Munsell Color Science Laboratory, Rochester Institute of Technology, P.O. Box 9887, Rochester, NY 14623-0887, (716) 475-2230; or Mr. Philip Wychorski, Eastman Kodak Company, Corporate Metrology Center, 1700 Dewey Ave. Bldg 69, Rochester, NY 14650-1911, (716) 588-6344.
RIT News Release 02/10/89

HUMAN RESPONSE TO OFFICE COLOR SCHEMES TO BE STUDIED

A 30-month study of human response to specific color schemes over a 40- hour work week has been initiated by Dr. Nancy Kwallek. She is head of the Division of Interior Design at the University of Texas (UT) at Austin and researches the effects of color on worker mood and productivity. This study is being conducted with a grant sponsored by the Institute of Business Designers Foundation (IBDF) and is funded by BASF Corp. and Interface Inc.

It has long been speculated that environmental color may influence worker mood, morale, absenteeism and the number of breaks taken, but there is little published data to confirm the nature or extent of the effect. Kwallek's study hopes to accomplish three main goals:

1. To provide the IBDF with information on human response to specific color schemes over a 40-hour work week, using a research design that examines the effect of color value, saturation and hue;

2. To examine the possible effects of color on an office worker's mood and office task performance;

3. To begin the development of a database for interior designers and scientists to consult when choosing color for various environments.

Kwallek's proposal calls for the recruitment of 108 male and female office workers between the ages of 25 and 40, with an average typing ability of 50 words per minute, to participate in the study. Each worker will work in one of three offices, each a different color, for a standard 40-hour work week. The office workers will be aware that they are involved in an experiment, but will not know that the main focus of the study is to assess the effects of interior color on performance.

The results of the experiment will provide insight into choosing the best color schemes for office interiors and may have implication for space habitability and various other interior environments.

NASA scientists in charge of designing and planning future long-term space flights have already expressed an interest in Kwallek's studies. Because psychological problems are often associated with long-term space flights, Kwallek's research could help determine which of the space station's interior colors could best minimize problems such as reduced productivity and morale and increased stress. Johnson Space Center engineers are providing the illumination specifications for the space module and the test offices used in this research will be similar to the module's interior.

Kwallek is an associate professor in the Department of Home Economics and joined the UT Austin faculty in 1983. She is also a member of the ISCC.
UT News Release

COLOR RESEARCH AND APPLICATION

In This Issue October, 1989

We understand colors in categories: reds, blues, etc. These categories occupy certain regions in color space. Samples within these regions resemble each other. Between these regions assigned color names tend to change rather rapidly. This non-uniformity of identification is in contrast to a possible uniformity of color difference perception as represented by sample collections such as the OSA-UCS set. If two color samples are seen simultaneously, categorization of the perceptions is not necessary to determine if they are the same or different. But what if they are seen in succession, with a time delay? Robert Boynton and co-workers have investigated this question and report their results in "Category Effects in Color Memory".

The Bezold-Brucke effect, positing changes in perceived hue of monochromatic stimuli with changes in illuminance, has been well demonstrated for unrelated aperture colors. But does it still occur when the color stimuli result from related object colors? Robert Hunt has investigated this question and his findings are found in "Hue Shifts in Unrelated and Related Colours".

Color constancy, i.e. the ability of the human visual system to discount the effect of the color of light sources on the perceived colors of objects within certain limits, continues to be a subject of much discussion. Many factors appear to affect the degree to which constancy of perception is achieved. One of these, as Land has shown, is the complexity of the visual field. Color constancy must mean that the visual system is able to extract major spectral features of portions of the visual field from the data provided by three (or four) receptor types only. This ability is of much importance for the achievement of accurate machine vision. A computational method is therefore required. A proposal for such a method is made by Ron Gershon and Allan Jepson in "The Computation of Color Constant Descriptors in Chromatic Images".

The basic color matching data have been interpreted in many different ways in form of color spaces. The manner in which such spaces are constructed can make them more or less useful for given purposes. To be of particular aid in technical applications in the Graphic Arts Jim Huntsman has developed a mutually opposed trichromatic response model of color vision. The construction and properties of the resulting space are described in "A Planar Vector Based Color Space for Graphic Arts Color Analysis and Reproduction".

With the issuance by the CIE of new rules for calculation of tristimulus values and their interpretation by an ASTM Committee this subject appeared to have been settled. Readers of this journal have become aware that considerable discussion continues. William Venable makes a major contribution to this discussion with his article "Accurate Tristimulus Values from Spectral Data", including several recommendations for use by instrument manufacturers and in a future revision of the relevant CIE and ASTM documents.

December, 1989

This issue contains three additional articles based on presentations given at the Optical Society of America Topical Meeting on Color Appearance, held in June 1987 at St. John's College in Annapolis. Volume 13, No. 3, June 1988 contained seven articles from the same conference. One of the highlights of the meeting was an invited address by Dorothea Jameson: "Color in the Hands of the Artist and Eyes of the Beholder". While not all of the color slides used by Prof. Jameson could be reproduced, the published version contains a generous selection. Jameson discusses many observations she has made as a leading color science researcher and devotee of the visual arts. The relationship between perceived hue and postulated opponent color signal has been generally regarded as quite well established. While there are several proposals for the wiring between cones and opponent cells, most of them differ only in minor respects and the casual observer may have concluded that this issue is largely solved. Readers of a recent article by Bruce Drum [J. Opt. Soc. Am. A 6, 153-157 (1989)] are prepared for a significantly more complicated picture. Based on extensive experiments, described in his article "Color Scaling of Chromatic Increments on Achromatic Backgrounds: Implications for Hue Signals from Individual Classes of Cones", Drum proposes a new wiring diagram of opponent color cells. The appearance of colored lights is substantially affected by chromatic adaptation. In "Color Appearance under Conditions of Chromatic Adaptation and Contrast", Shevell and Wesner describe experiments to determine the effects of long, middle, and short wavelength adapting lights on a yellow test light. The effects are expressed in terms of the adjustments required in order to maintain the yellow test light looking neither reddish nor greenish and explained in the framework of a two process theory of chromatic adaptation.

One of the salient features of an opponent color system is the existence of four unique hues, red, yellow, green and blue (unique yellow, e.g. is the yellow perceived to be neither reddish nor greenish in appearance). Ikeda and Uehira have determined the loci in the chromaticity diagram of unique hues as a function of saturation at two different brightness levels. As illustrated in their article, "Unique Hue Loci and Implications", they find them to be mostly curved. This points to non-linearities in the opponent system and the authors call for the development of a non-linear opponent color system.

Ellen Carter

NEWS FROM MEMBER BODIES

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) COMMITTEE MEETING

ASTM Committee E-12 on Appearance of Materials will meet 21-24 January 1990, Embassy Suites Hotel, Ft. Lauderdale, Fla. Contact Sharon Kauffman, (215) 299-5599.

Committee E-12 is one of 135 ASTM technical standards-writing committees. Organized in 1898, ASTM is one of the largest voluntary standards development systems in the world.

Participants are needed for E12.06 on Appearance of Displays, a subcommittee of ASTM standards-writing Committee E-12 on Appearance of Materials.

The group has developed three draft standards on the measurement of the color of video display units, and will have a general discussion of those proposed standards at their next meeting.

All interested parties are welcome to participate. The next meeting of the subcommittee is during the January 21-24, 1990 standards development meeting of Committee E-12 in Fort Lauderdale, Florida. For more information, contact Danny C. Rich, Applied Color Systems, Inc., P.O. Box 5800, Princeton, NJ 08543, (609) 924-2189; or Sharon Kauffman, ASTM, 1916 Race Street, Philadelphia, PA 19103-1187, (215) 299-5599.

ASTM Subcommittee on Scattering to develop Standards for Optical Systems 12.09

This group is currently working on a standard test method for determination of the amount and angular distribution of optical scatter from an opaque surface, and plans to pursue additional standards for the optical scatter community. Subcommittee E12.09 was formed as a result of a survey of national optical scattering test facilities conducted by the U.S. Air Force's Rome Air Development Center (RADC), which pointed out the need for more uniform scatter measurement and reporting procedures throughout the scatter community. The Electro-Optical Technology Branch of RADC is managing the Strategic Defense Initiative's (SDI) Large Optics Technology Program. This group has responsibility for all large optics technology developments for SDI space-based surveillance systems. One of the important technologies that is being pursued by RADC for these systems is the understanding of scattered light from mirror surfaces. Surface scatter results from the inherent microroughness of the polished mirror or from accumulated contamination (molecular or particulate).

For more information on this activity, contact L. Bruce Thompson, SAIC, 199 Liberty Plaza, Suite 200, Rome, NY 13440, Tel. (315) 339-5010; Thomas Leonard, 450 Tanglewood Drive, Dayton, OH, 45440, Tel. (513) 429-5005; or Sharon Kauffman, ASTM, 1916 Race Street, Philadelphia, PA 19103, Tel (215) 299-5599.
ASTM News Release

DETROIT COLOUR COUNCIL(DCC)

The DCC concluding 1989 program was a symposium on color measurement of opalescent automotive finishes formulated with mica-containing pigments. Means of color specification and control were compared to techniques for conventional metallic finishes. Speakers were Carl Rieger of Mearl, Sigrid Teaney of EM Industries and Jacqui Welker of PPG.

DCC supported the Fall term COLOR TECHNOLOGY course at Eastern Michigan University (EMU). The course is designed to be "hands-on" with lab exercises at each session. Eight 3-member teams completed assignments in the following: Munsell identification, color difference terminology with industrial samples, color vision testing, observer variability, pigment identification, paint color matching, rationalization of measured to observed color differences and automotive design exercises. Pigment properties and dispersion were stressed and principles of color design were demonstrated. Primary elements of SAE J- 1545 method for color difference determination were explained.

The EMU lab is equipped with an automotive-specified Macbeth Light arrangement and with color measuring instruments in both sphere and 45/0 geometries. Illustrative literature, slides, videos and equipment loans were furnished by Hunter Associates Laboratory, Wagner Institute, ACS, and BYK-Gardner (formerly Pacific Scientific Company).

For the second year the class was filled and composition was roughly 1/4 full-time EMU students and 3/4 Adult Education students, mainly from the automotive industry. The course is offered only in the fall. *W.V. Longley*

ISCC past-president Allan Rodrigues presents the ISCC Membership Certificate to DCC president Steve Daniel.

At the September 28, 1989 meeting of DCC, ISCC past-president Allan Rodrigues presented the ISCC Membership Certificate to DCC president Steve Daniel. The framed certificate will be mounted on an easel and displayed at all DCC meetings.

GRAPHIC ARTS TECHNICAL FOUNDATION (GATF)

New and Revised technical education texts from GATF

NEW: ***Nonimpact Printing*** is the title of the latest technical education text from the Graphic Arts Technical Foundation. The book is intended to acquaint the reader with the techniques and significance of nonimpact or plateless printing. The book also indicates important trends in nonimpact printing for the printing industry and related fields of business communications and office copying and duplicating.

Nonimpact Printing is 110 pages and was written by Gerhard A. Nothmann, principal engineer at Xerox's Webster Research Center.

Following an introduction to nonimpact printing in its first chapter, the book subsequently details electrophotography, electrography, ionography, magnetography, ink jet printing, and thermal transfer printing.

In this publication, Nonimpact printing refers to those processes that do not rely on a type bar or stylus to strike, or "impact" the printed medium through an intermediate element, usually in the form of an inked ribbon. The nonimpact printing systems described are far from traditional office printing systems or commercial printing processes. The text defines nonimpact printing relative to printing processes and equipment that derive image input directly from computers, avoiding the need for an intermediate image carrier and transferring the image directly from the computer to the printer, or output device. All discussions are limited largely to processes for printing on paper and paperlike materials.

The advent of such nonimpact printing processes has blurred, or even bridged the boundaries between the traditional prepress area, where the printing plate, cylinder, or other intermediate image carrier could be thought of as that department's "output", and the pressroom, which receives this output as the essential "input" needed to begin production.

The cost of ***Nonimpact Printing*** is $45 for GATF members and $65 for nonmembers. To order, please contact GATF's Order Division at 4615 Forbes Avenue, Pittsburgh, PA 15213; phone: (414) 621-6941; fax: (412) 621-3049

REVISED: ***Web Offset Press Operating*** is an updated and reprinted technical education text from GATF. It contains the latest information necessary for optimum web press operation. This third edition's 288 pages and 90 illustrations provide in-depth explanations of the nature and operation of major press elements from reel stand to folder.

The text also details makeready operations, analyzes common press/print problems, and provides extensive related technical information on raw materials.

With the addition of new chapters and revision of many sections, ***Web Offset Press Operating*** provides current industry standards, applications, and methods. Chapters new to this edition target in-line finishing, test images for web offset, and pressroom safety.

Most of the new photographs and line drawings illustrating this edition were provided by industry manufacturers.

While GATF's latest edition provides the training essentials necessary for operating the web press, it does not furnish experiential knowledge. Therefore, GATF also offers a series of how-to videotapes on the subject, and is moving forward on a task analysis-based web training system.

The cost of Web ***Offset Press Operating*** is $35 for GATF members and $55 for nonmembers.

GATF will conduct its *Executive Technology EXEC-TECH* Program on June 10- 22, 1990 at its international headquarters in Pittsburgh, Pa.

Exec-Tech, held in conjunction with the Executive Development Division of the University of Pittsburgh's Graduate School of Business, is a two-week program for senior- and middle-management personnel who want to be on top of the latest printing technology and business management information.

An excellent blend of printing technology and business management topics, *EXEC-TECH* serves as a successful update for experienced managers as well as an education tool for new managers or for those who are changing positions.

Topics covered include Printing Technology Sessions, Prepress Update and Business Management Sessions.

EXEC-TECH is especially suited for executives in the printing, publishing, packaging, and printing equipment and supply industries.

It is an intensive program featuring over 20 three-hour sessions during its two-week schedule.

For more information, contact Kenneth E. Nowicki, technical programs director, GATF, 4615 Forbes Avenue, Pittsburgh, PA 15213; Tel.: (412) 621-6941; FAX: (412) 621-3049; Telex: 9103509221.

GATF news releases, Sept. 1989

THE GEMOLOGICAL INSTITUTE OF AMERICA (GIA)

A joint investigation of synthetic diamond thin films by researchers at GIA and Laurie Conner of Crystallume in Menlo Park, California, concluded that while these films currently are easily identified, the technology is developing so rapidly that such thin films could create opportunities — and problems — for gemologists in the future. The study found that synthetic diamond thin films now on the market could not be used to "disguise" a diamond simulant from a thermal conductivity meter. The identifiable characteristics of the thin films currently available include their polycrystalline nature, granular texture, and the interference colors they create on the material to which they are applied.

Because of their exceptional physical properties, synthetic diamond thin films are generally used as coatings on electrical and optical equipment and on tools to increase their resistance to wear. However, the study points out that potential developments could lead to a material that behaves like natural dia-

mond and could be applied to synthetic or imitation gems. For that reason, researchers recommend close monitoring of this technology.

The Fall issue of the quarterly newsletter *The Scope* is devoted to a discussion of the distinguishing features of glass and plastic imitations of phenomenal gems. Robert C. Kammerling and John I. Koivula detail the characteristics of glass imitations as well as the microfeatures of aventurescent plastic imitations of aventurine feldspars and of opal with a true play-of-color. The Fall 1989 issue of *The Scope* is available with the updated edition of the GIA GEM Instruments catalog by calling 1-800-421-8161. Outside the U.S., call (213) 829-5491 or write GIA GEM Instruments, Dept. PR10, 1630 Steward St. Santa Monica, California 90404.

CALENDAR

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

Harry K. Hammond, III
BYK-Gardner, Inc.
2435 Linden Lane (301) 495-7150
Silver Spring, MD 20910 FAX (301) 585-4067

1989

ISO/TC 187 COLOR ORDER SYSTEMS, Dec. 4-6
Baltimore, Maryland. Information: Nick Hale, (301) 472-4850.

SPIE SYMPOSIUM, Dec. 14-15
Neugebauer Memorial Seminar on Color Reproduction, Tokyo, Japan. Information: Dr. Kazuo Sayanagi 03/208-7821 or in North America: SPIE (206) 676-3290.

1990

ASTM E-12 ON APPEARANCE, Jan. 21-24
Embassy Suites Hotel, Ft. Lauderdale South, Florida. Information: Sharon Kauffman, (215) 299-5599.

ASTM COMMITTEE D-1 ON PAINT, Jan 21-25
Embassy Suites Hotel, Ft. Lauderdale South, Florida. Information: David Bradley, (215) 299-5504.

INTERNATIONAL SYMPOSIUM AND EXPOSITION, Feb. 11-16
SPSE & SPIE Symposium on Electronic Imaging Devices and Systems '89, Santa Clara Convention Center, Santa Clara, California. Information: Pam Forness, (703) 642-9090.

SPSE 6TH INTERNATIONAL SYMPOSIUM, Feb. 19-21
Photofinishing Technology and Marketing, Las Vegas, Nevada. Information: Pam Forness, (703) 642-9090.

NATIONAL LIGHTING CONFERENCE, ENGLAND April 8-11
Robinson College, Cambridge, England. Information: Ms. K. Phillips, NLC Organizer, CIBSE Lighting Division, 222 Balham High Road, London SW12 9BS, Tel. 01-675-5211, ext. 213.

ISCC ANNUAL MEETING/ SCAI CONFERENCE, Apr. 22-26
Airport Marriott, Cleveland, Ohio. Information: James Grady (313) 855-2353, Jaqui Welker (216) 671-0050 ext. 2404, Romesh Kumar, (401) 823-2161.

COLOR MARKETING GROUP SPRING MEETING, Apr. 29- May 1
Royal York Hotel, Toronto, Ontario, Canada. Information: Nancy Burns, (703) 528-7666.

CORM 90, May 8-10
Rochester Institute of Technology Rochester, New York. Information: Dr. Roy Berns, Munsell Color Science Lab., RIT, P.O. Box 9887, Rochester, New York. (716) 475-2230.

SID 90, May 14-18
The Society for Information Display International Symposium, Seminar, and Exhibition, will be held at Baily's Grand Hotel, Las Vegas, Nevada. Information: Howard L. Funk, (914) 765-7384.

SPSE 43RD ANNUAL CONFERENCE, May 20-25
Rochester Institute of Technology Center for Imaging Science, with housing at the Holiday Inn-Rochester South, Rochester, New York. Information: Pat Forness, (703) 642-9090.

ASTM COMMITTEE D-1 ON PAINT, Jun. 17-20
San Francisco, California. Information: David Bradley, (215) 299-5504.

IES ANNUAL CONFERENCE, July 29- Aug 2
Omni Inner Harbor Hotel, Baltimore, MD. Information: Diane Darrow, (212) 705-7269

AIC INTERIM MEETING, COLOR MEASUREMENT, Sep. 3-5
Color Instrumentation, Federal Institute for Materials Science and Testing (BAM), Berlin, Federal Republic of Germany. Information: Prof. Dr. Heinz Terstiege, BAM, Unter den Eichen 87, D-1000 Berlin 45, FRG.

COLOR MARKETING GROUP FALL MEETING, Sep. 23-25
Hyatt Regency San Antonio, San Antonio, Texas. Information: Nancy Burns, (703) 528-7666.

FSCT, Oct. 29-31
Federation of Societies for Coatings Technology, 68th Annual Meeting and 55th Paint Industires' Show, Convention Center, Washington, district of Colombia.
Information: (215) 545-1506.

SPSE 6TH INTERNATIONAL CONGRESS, Oct. 21-26
Advances in Non-Impact Printing Technologies with Exhibit, Orlando, Florida. Information: Pam Forness, (703) 642-9090.

USNC/CIE ANNUAL MEETING, Oct. 28-30
U.S. National Committee of CIE, Keller Conference Center, The Pennsylvania State University, State College, Pennsylvania. Information: Dr. Craig Bernecker, (863) 863-2041

OSA ANNUAL MEETING '90, Nov. 4-9
Boston, Massachusetts. Information: Optical Society of America, 1816 Jefferson Place, N.W., Washington, D.C. 20036. Telephone: (202) 223-0920.

1991

AIC INTERIM SYMPOSIUM, COLOUR & LIGHT, Jun. 26-28
Sidney Australia. Information: The Colour Society of Australia, P.O. Box 63, Concord West, N.S.W. 2138, Australia.

CIE 22ND SESSION, Jul. 1-12
International Commission On Illumination, Melbourne, Australia. Information: Dr. J. D. Schanda, Central Bureau, A-1030 Vienna, Kegelgasse 27 Austria, or Dr. Jack Hsia, (301) 975-2342.

MEMBERSHIP IN THE ISCC

IS OPEN TO EVERYONE INTERESTED IN COLOR!!

For further information and membership application, please fill out the items below and mail to address shown.

Your name _____

Address _____

City _____ State____Zip _____

Mail to: Ms. Therese R. Commerford, Secretary ISCC
USARMY Natick RD&E Center
ATTN: STRNC-ITC
Natick, MA 01760-5019

The ISCC is composed of both individual members and member bodies who have an interest in color. If you are a member of a national organization that might be interested in this affiliation, please indicate its name below and we will get in touch with you about it.

Organization _____

Your Phone No. (daytime) (____) _____

NEWSLETTER EDITOR:

Mrs. Bonnie K. Swenholt

ATTENTION: Send material for publication in the ***next issue*** — ***the Jan-Feb, 1990 issue*** — deadline 15 December, 1989 —

to: Mr. Michael Hammel
98 Grand View Drive
Fairport, NY 14450
Tel. (716) 223-1823

If possible, 5 1/4 inch diskette with ASCII text file for MSDOS.
OR for hard copy transmission FAX to (716) 425-2411.

or send to Dr. Ellen Carter:
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American Chemical Society (ACS)
American College of Prosthodontists (ACP)
American Psychological Association (APA)
American Society for Testing and Materials (ASTM)
American Society of Interior Designers (ASID)
American Society for Photogrammetry and Remote Sensing (ASPRS)
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National Association of Printing Ink Manufacturers (NAPIM)
National Paint and Coatings Association, Inc.(NPCA)
Optical Society of America (OSA)
Society for Information Display (SID)
Society of Motion Picture and Television Engineers (SMPTE)
Society for Imaging Science and Technology (SPSE)
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