



Inter-Society Color Council News



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President Jack A. Ladson's Acceptance Speech Charlotte, NC, April 17, 2000



On this day in 1452, in the village of Vinci in Italy's Tuscany a great inventor, designer and sculptor was born named Leonardo. The world has become a richer place as da Vinci's genius grew and took form. So today, I address you cheerfully on the subject of our organization called the ISCC, the power of imagination, and its future. And if I can do no better, at least give me a Mona Lisa smile.

I was elected to the office of the President by vote almost two years ago. Since that time I have had the pleasure and education of serving under President Dr. Michael Brill. My training actually began years ago with Dr. Ellen Carter. She encouraged and assisted me in many ways. Thank you Ellen.

The office of the presidency begins today, and I am excited and honored about this privilege. I see that the ISCC is in good health now due to the excellent Executive Board, the Board of Directors, the Interest Group leaders, and all the supporters who freely give their time and resources to advance the ISCC.



The current Executive Board includes: Past President - Dr. Michael Brill, Treasurer – Mr. Hugh Fairman, and Secretary – Mr. Rich Riffel. I would like to welcome the newest member to our Executive Board, my good friend, Dr. Danny Rich as President-Elect.

The current Board of Directors includes the following: Ms. Charley Haley, Mr. Craig Johnson, Mr. Yan Liu, Dr. Dan Phillips, Mr. Ralph Stanziola, and Dr. Art Springsteen.

I personally welcome the following new directors to the Board (from left to right): Mr. Alan Kravetz, Dr. Mary McKnight and Dr. Robert Buckley, .



As you can see, I am very fortunate to be surrounded by such a talented, highly dedicated board. No one could ask or expect more. Additionally others operating in the background, serving as a Standing Committee Chair or an Interest Group Leader contribute time and effort as they make the ISCC what it is today.

The stage would not be complete unless we acknowledged the excellent work of our very able Office Manager, Cynthia Sturke. She is doing an outstanding job in our office and we are fortunate to have her. As I think of the office I want to thank Mr. Phil Hunter and Hunter Associates Lab, Inc. for donating the ISCC Office space, equipment and time assisting Cynthia. It is deeply appreciated.

This is the organization of the ISCC. These are the dedicated people who can help you achieve your goals in color. Remember that YOU are what the ISCC is today. YOU are what it will be tomorrow.

The ISCC provides many valuable services to the community. I remember the first meeting I attended in 1979. Since then I have always enjoyed the meetings because I learn a lot about color and color science from the lectures, demonstrations, and symposia. An added benefit is that I have the opportunity to talk with leading scientists, artists, and business people; as well as the opportunity to present my own scientific results.

The ISCC holds Annual and Williamsburg Meetings where color scientists, artists, and business people relate to one another. We have had two Williamsburg Conferences in the last two years. The most recent program was the 2nd Panchromatic Conference organized by Dr. Cynthia Brewer in Savannah. It was excellent. There are more conferences in the upcoming years that you will not want to miss. These conferences, including this meeting, are successful in part because of your Arrangements Chairman, Mr. Romesh Kumar. He makes everything happen.

I want to draw your attention particularly to the ISCC – AIC Quadrennial Meeting in June 2001 in Rochester, NY. The AIC organizer is Ms. Paula Alessi, and Dr. Rob Buckley is the ISCC liaison. I am on the technical program committee and I can tell you, from the activity and the interest, that you do not want to miss this event.

Our primary communications vehicle is the Newsletter. Under the leadership of Prof. Gultekin (Tek) Celikiz, with Cynthia Sturke's assistance as compositor, the content, layout and timeliness of the Newsletter improves with every issue. I am sure that you have noticed this and we must congratulate him on his accomplishments.

Mr. Jim Keiser, leading the Membership Committee, is doing an excellent job helping the ISCC to increase in size. He is our evangelist and in the past two years the number of Sustaining Members has increased from 6 to 14 , a factor of nearly 2.5.

As I mention growth, it is also very exciting to know that a Student Chapter is in the process of formation at FIT. Another chapter in Savannah is

in the process of forming. The long-term benefits to the ISCC will be manifested as the shining stars of tomorrow merge into our organization. Dr. Geoffrey Rodgers, Chair of the Education Committee, supported by Professors Meg Miele and Georgia Kalivas, are leading these efforts. This is very exciting and thank you for your efforts.

As we look into our crystal ball, we see that the ISCC will continue to develop a prominent presence on the WWW. We will continue to develop the ISCC as part of the emerging digital age. Bill Gates said, "the successful companies of the next decade will be the ones that use digital tools to reinvent the way they work." And that is in part my vision for the ISCC. We will deliver timely information about the organization, our activities, and the color industry to the global electronic audience. While all users have access to the information about the organization, only ISCC Members will be able to download Reports, Newsletters – old and new, book reviews, and other information in the ISCC knowledge base. As Project 53 "Annotated Webliography", matures under Dr. Brill; our presence on the "www" will become more prominent. I can see great things happening here. We will develop communication tools and balloting using e-mail. David Wyble at RIT is doing an excellent job developing and maintaining the Web site. If you haven't been there recently, go to www.iscc.org. We have a new face and you will enjoy it.

In closing, what I am promising is to facilitate your access to today's enlightenment and to strategically position the ISCC for tomorrow. The ISCC has a bright future and I hope that each of you decide to take a vital part in the most exciting color organization in the world. And that is my challenge to each and every one of you today.

**Become involved,
make a difference,
and have the time of your life!**

Thank you for your confidence and support. I appreciate your vote of confidence, especially your smiles.

*Jack Ladson, ISCC President
Estee Lauder Companies*

**Color Basics for Industry
ISCC Color Course
Williamsburg Conference
March 19th & 20th, 2001
Cleveland Airport Marriott
Cleveland, OH**

This is an educational course for people who work with color or work in industries where color and appearance are important factors in their products. This course will be two days of interactive instruction and learning in a unique format. Prior training in color science is not required. Both the novice and those with years of experience will find useful material that can be applied to their respective industries.

Monday - Introduction to Color

One day will be spent on the basics of color, including how we see color, how we measure color and how we communicate color. Some of the topics will be visual evaluation, instrumentation, CIE system, color communication, color differences and how these all interact.

Tuesday - Industry Specific Sessions

This day will be broken into four one-half day sessions and each will be presented twice. This allows participants to attend two of the four session. These sessions will be industry specific in order to cover unique applications, problems and allow for interaction among participants and instructors. The sessions will be:

- 1. Textiles/Dyes
- 2. Paints/Plastics
- 3. Graphic Arts/Inks/Design
- 4. Digital Color Communication

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Ruth M. Johnston-Feller

It is with great sadness that we have to report that Ruth M Johnston-Feller died in Pittsburgh, April 27, 2000 after a long illness. She is survived by her husband Robert Feller. Mrs. Johnston-Feller, the Former Ruth M. Johnston, had most recently been a consultant in color science to the research Center on the Materials of Artist and conservator at Mellon Institute, Carnegie-Mellon University, Pittsburgh. There she directed the Color Science Laboratory and the research on fading of paints and textiles at the Research Center. The work of the Research Center, primarily supported by the Andrew W. Mellon Foundation, is directed by her husband, Dr Robert L. Feller, who, for more than 30 years has been engaged in research on the preservation of artistic and historic works.



Before joining her husband in Pittsburgh, Miss Johnston was Manager of Coatings and Colorimetry Laboratories of the Pigment Department of CIBA-GEIGY Corporation in Ardsley, New York. She was responsible for the testing and evaluation of pigments for the coatings industry and for supervision of the colorimetry Laboratory's work on the application of color technology in the plastics, paint, textile and paper industries.

In 1984 she was awarded the ISCC's Macbeth Award. Here are some comments from Max Saltzman at the time of the award.

"I first met Ruth Johnston-Feller in the early '50s at a meeting of the Optical Society of America. I had been asked by our sales manager to see if I could talk with 'that young lady from PPG who thinks she can measure color' and to see what I could do to dissuade her from continuing this foolish effort. Obviously and happily I failed to do so, for Ruth went on in her persistence and determination to apply color science and color technology to the day-to-day problems of running a first-class paint operation." [quoted from the *ISCC News*, 1984]

Ruth Johnston-Feller graduated in Chemistry from the University of Illinois where she worked for the Chemistry Department in the development of spectrophotometric techniques. During World War II, she worked on the Penicillin Research Project at the U. S. Department of Agriculture's Northern Regional Research Laboratory. Mrs. Johnston-Feller had more than 20 years of experience in industrial color technology. Before joining CIBA-GEIGY in September 1973, she was Director of Application Services for the Color Systems Division of the Kollmorgen Corporation. Prior to joining Kollmorgen in 1967, she was project Leader for Color Research at the Coatings and Resin Division of PPG Industries.

She established at PPG the first instrumental color control system for paint production and operated it successfully with the then quite simple equipment. After leaving PPG, she then went to work for Davidson and Hemmendinger, subsequently part of the Kollmorgen Corporation, where her superb grasp of the principles and practices of the use of color technology in industry were put to great use. After her change of job to the Ciba-Geigy Company to be in charge of their color technology operation in connection with pigments, she continued her teaching, taking a slightly different direction from all other courses then being given. Her course was specifically directed towards color and the behavior of colorants in which she elucidated her ideas on the appropriate ways to use the science of color in the practical evaluation of coloring materials in industry.

In 1970 she received the Armin J. Bruning Award from the Federation of Societies for Paint Technology for her outstanding contributions to the science of color. In 1977 and again in 1978, with Dennis Osmer, she was awarded the Dry Color Manufacturer's Award for the year's outstanding publications in the Journal of Coatings Technology on the subject of color science as applied to the paint and coatings field. Their two award-winning publications concerned the quantitative measurement of various aspects of the outdoor deterioration of plastics. In 1985 she was chosen as the Mattiello Lecturer at the FSCT Annual Meeting, and in 1989 she received the George Baugh Heckel Award for service to the FSCT.

Author of more than 40 technical articles, Mrs. Johnston-Feller contributed the major chapter on "Color Theory" in the three-volume Patton's Pigment Handbook, published by John Wiley & Sons. This superb 60-page article, necessarily condensed because of space requirements, remains the single best discussion on the application of colorimetry to practical utilization of pigments. She has also taught numerous courses on color and the behavior of colorants and has lectured on color science at many universities.

In 1988 she received the ISCC's Nickerson Service Award. In the citation it was noted that she was an active member of several project committees, chaired the Problems committee, and revised the Project Committee Chairman's Guide. She chaired Project #24: Catalog of Color Measuring Instruments. In connection with this project she published "Color Measuring Instruments: A Guide to Their Selection" in *J. Color and Appearance* Vol. 1 #2 p. 127- (1971). Which still stands as one of the few such guidelines. She organized the first Symposium on Color and Appearance Instrumentation (SCAI) in 1978 when she was chair of the FSCT delegation to the ISCC. The format of lectures, hands-on workshops, and intimate social occasions established then, continues on a periodic basis today. SCAI is co-sponsored by the FSCT, ISCC, and the Manufacturers Council on Color and Appearance. [The next SCAI conference is planned for 2003 in Louisville, KY]. She worked with her husband on the 1986 Williamsburg Conference on "Colors of History."

Mrs. Johnston-Feller is a member of numerous professional Societies: American Chemical Society, American Society of Testing and Materials, American Association of Museums, Optical Society of America, Inter-Society Color Council, Federation of Societies for Coatings Technology, International Council of Museums, American Institute for Conservation of Historic and Artistic Works, International Institute for Conservation of Historic and Artistic Works.

She is a former member of the Board of Directors of the FSCT and served for many years as a member of the Publications Committee, and the Editorial review Board of the Federation's Journal. She was for many years, a member of the Board of Trustees of the Paint Research Institute, the non-profit research agency of the Federation.

Mrs. Johnston-Feller has been active in many committees associated with color science: Chairman of the FSCT - Inter-Society Color Council delegation; Chair of FSCT's Bruning Award Committee, chair of the ISCC's Problem's Committee. She also served for many years on the FSCT National Program Committee. She authored the definitions of more than 400 color terms in the FSCT *Paint/Coatings Dictionary*, 1978 published separately by the FSCT as the *Glossary of Color Terms* in 1979. She is listed in *American Men and Women of Science*.

Possibly Ruth Johnston-Feller's finest legacy is the many people whom she mentored during her professional activities. While the entire color community will miss her, the people she inspired and trained continue her tradition of excellent work in color science in industry.

Ellen C. Carter
CR&A Editor

Inter-Society Color Council's 2nd Panchromatic Conference

The Second Panchromatic Conference was held in Savannah, GA., on February 19-21, 2000. This Williamsburg Conference, entitled, "Color in Its Surround," brought together many scientists from around the world to discuss the influence of the surround on the appearance of colors.



Dr. Cynthia Brewer, Conference Chair

The conference organizer, Dr. Cynthia Brewer, Penn State University, along with the program committee, Dr. Mark Fairchild of RIT, Joy Turner Luke, Studio 231 and Dr. Steve K Shevell, Visual Sc. Center, Univ. of Chicago put together a lively and informative conference. What follows are some highlights of the Conference divided into broad categories of interest:

Color Constancy

Graham Finlayson, Steven Hodley and Paul Hubel presented a paper entitled, "Correlating Color Constancy Algorithms." In an invited presentation, David Brainard, discussed the laboratory work focusing on the psychophysical measurement of color constancy in human observers and how the data from his experiments can be used to model color constancy. Brainard pointed out the mechanisms involved in the change in color appearance with color contexts, such as chromatic induction.

Induced Color

Steven Shevell, in his invited presentation entitled, "Where Is The Color In Color Vision?" began by pointing out that color is not in the light but in the mind. With a number of demonstration slides, Shevell

made it clear that color is a psychological phenomenon. Vivianne Smith and Joel Pokorny reported on experiments in which the surround effects on color discrimination and color appearance were measured. Using two different configurations in a 4-alternative forced-choice experiment, they found that color discrimination was influenced mainly by the retinal adaptation of the surround. Joy Turner Luke gave an invited presentation filled with many interesting demonstrations of color assimilation. By manipulating size, shape and location of small, colored lines and bars in contextual figures, she demonstrated the complicated visual phenomena associated with the "spreading" effect. Carol Waldron and Barbara Martinson presented a paper in which they discussed how they teach the use of simultaneous contrast and spreading as functional and expressive design variables. Cynthia Brewer spoke on her experiments in which a quantitative model of chromatic induction was tested and used to select color schemes for maps which would remove confusion due to induced color shifts. Reaction times and error rates for map reading tasks were reduced for maps that had color schemes using colors which were predicted by the induction model.

Black and White

Alan Gilchrist gave an invited talk entitled, "Seeing Black and White: Computation of Lightness by the Human Visual System." Gilchrist explained that although the current computational models of lightness perception effectively predicted perfect lightness perception, they do not consider the systematic errors that humans make in judging lightness such as simultaneous contrast. The examination of lightness errors has taken his laboratory on a different path in explaining lightness perception.

In his invited presentation, Mark Fairchild described experiments in which subjects matched central gray patches to their subjective impressions of the average lightness of variegated surrounds with various levels of contrast. Subjects also made settings which measured the simultaneous contrast induced by these different surrounds. The overall average results from the experiments indicate that linear integration and equivalent background calculations should work well in color appearance models.

Thomas Melfi and James Schirillo presented a paper on the role of perceptual junctions in simultaneous contrast. Melfi and Schirillo presented subjects with various arrangements of background patterns with T-junctions that had differing effects on the magnitude of induced lightness. Melfi and Schirillo were able to show contrast effects for both increments and decrements that are likely due to cortical influences created by specific T-junctions. Schirillo and Perkins extended simultaneous contrast to the third dimension of depth. Their results again supported the notion of the influence of perceptual grouping for simultaneous contrast.

History and Art

Of historical interest were two invited papers. Françoise Viénot presented an overview of the life and work of Michel-Eugène Chevreul (1786-1889) who pioneered the study of simultaneous contrast and created a colour atlas based on a three-dimensional colour classification system. Included in the presentation was data from recent measurements of colored plates from Chevreul's atlas.



Cal McCamy, Françoise Viénot, and Paul Warren discussing "colorful" topics.

Calvin McCamy recreated the three- and two-color demonstrations performed by Land over 40 years ago. McCamy used some of the original equipment he used in the years following Land's demonstrations when he went "on the road" with the demos while with the National Bureau of Standards. McCamy put these demonstrations in historical context while entertaining us with patter befitting of a man who, as we found out in his introduction, once composed circus music.

Philip O'Reilly gave us presentation demonstrating the evolution of the use of various color media in his art. He explained how materials are used both visually and thematically in his expression of his exotic and allegorical subject matter. Carlos Inclán demonstrated the effects of dichroic filters which he used in his installation piece, the Colorwheel Elevators, in New York City. Karin Fridell Anter presented results from a study which demonstrated that the appearance of the color of a house façade may be different than that intended when choosing from color swatches.



Itala Kucsera and Klára Wenzel
Coloryte, Hungary

The lively and liberal use of demonstrations made for a very enjoyable and interesting conference. The use of psychophysics for measuring and understanding the effects of the surround was a major theme of the conference. Vision researchers and color scientists are using complex stimulus displays that tap into higher cortical and cognitive mechanisms involved in perception of color space. Through these techniques the chasm between art and science is being narrowed as we gain insight into the way our visual system functions.

*Ethan D. Montag
Rochester Institute of Technology*

(The complete version of the above article by Dr. Ethan D. Montag is published in "Color Research and Application.")

**Inter-Society Color Counsel
69th Annual Meeting
Co-located with CPMA
April 16th-17th Charlotte N.C.**

The ISCC Interest Group II, Industrial Applications convened Sunday morning at 9:00 a.m. April 16th at the Hilton at University Place Charlotte N.C. Chair of Interest Group II, Ms. Britt Nordby acted as the Moderator.

The first Speaker, Giordano Beretta of Hewlett-Packard Company, gave a talk "Progress and Issues in Digital Color Publishing" covering the challenges of digital publishing workflow (including color control), paper stock, finishing bookbinders and examples of workflow problems in CRT's and digital printers due to restricted color gamuts.

Dr. Roy Berns of RIT (on sabbatical at the National Gallery of Art) presented a paper entitled "Colorant Selection for Inpainting, Using Visible Reflectance spectrophotometry." This very interesting talk covered Roy's current work at the National Art Institute and restoration of Art in the National gallery. Additional speakers for this Interest Group II (Industrial Applications) session were Mr. James Cave of BASF, presenting his paper "Predicting New Automotive Colors Workability" and Mr. Hal Good of HunterLab presenting his paper entitled, "Color and Appearance Measurement Techniques and Their Effect on Accuracy and Precision."

David Spooner, of rhoMetric submitted his paper on "Translucent Sample Interaction With 45/0 or 0/45 Geometry Reflectometers." David asked the question "Stray Darkness or Stray Light?" Manufacturers of spectrophotometers commonly check for stray light. David pointed out that some reflected light is laterally diffused. David showed how this lateral diffusion error affects measurement results, due to the surround. David believes his work demonstrates the need for a translucency index.

The ISCC Interest Group I Fundamental & Applied Color Research convened Sunday at

1:30p.m., April 16th. Dr. Frank O'Donnell was the Moderator & Chair. Frank warmly welcomed us to the conference; mentioning his recent assumption of Chair of Interest Group I and making an appeal for someone to fill the open Vice-Chair position

The papers presented in the afternoon session consisted of Mr. Rolf G. Kuehni, of Dyestar L.P. "Color Differences from Threshold to Large Color Differences." Rolf is proposing a lightness formula that would weight the lightness differences and listed dependence of adjustment function on the size of the difference, an optimization of CIE94 formula.

Michael H. Brill, of Sarnoff Corp. & Graham Finlayson, of University of East Anglia gave a paper, entitled, "Illuminant Invariance from a Single Reflected Light."

A paper entitled, "Effects of Texture on Color Difference Evaluation of Surface Color" by Alexei L. Krasnoselsky, Ethan D. Montag and Roy Berns of Munsell Color Science Laboratory was presented by Alexei. He presented results of two psychophysical experiments.

The Poster Session and Wine & Cheese Reception generously sponsored by BASF, Bayer, Clariant & Engelhard Corporations was enjoyed by all. We enjoyed the Poster Session while nibbling on wonderful hors d'oeuvres such as assorted fresh cut vegetables, aged cheeses, meatballs, teriyaki chicken and shrimp on ice. We washed these down with choices of red or white wines or ice-cold beer.

The Posters contributed were:

"Color Concepts in Japanese Culture: a CD-Rom Presentation" by Susan Daniels & Nancy Kwallek of The School of Architecture, University of Texas at Austin.

"A Mystery in Many Acts": by, David L. Spooner of RhoMetric Assoc. and Paul Tannenbaum, of DuPont Company.

"The Shapes of Color" by, Maria Elna Cappelli & Ana Maria Rodriguez of Universidad Nacional de Tucuman, Argentina.

"The Prototype of a New Teaching Book - Color Primer 1" by Jean Bourges of Bourges Color International.

"Color and Urban Environment," by Maria Mercedes Avila of National University of Cordoba Argentina.

Monday Morning April 17th Interest Group III: Art, Design, And Psychology, moderated by Prof. Margaret Miele & Dr. Geoffrey Rogers

Dr. Geoffrey Rogers, Fashion Institute of Technology presented, "Color Science for Art and Design Students." With the rapid adoption of digital imaging technologies in the applied and fine arts, there is a need for curriculum of applied color science for art and design students.

Mary Nielsen of Hewlett Packard told us about Digital Color Workflows for Office Printers. Pantone or CMYK colors do not reproduce on digital printers well. Using a chromaticity diagram to map out the RGB color gamut and overlaying that with a CMYK color gamut, Mary demonstrated where the difficulties arise when converting RGB to CMYK.

Jean Bourges of Bourges Color International presented, "Education Color 2000 and Beyond." Teaching text, the subject of introductory art classes encompassing levels K- professional.

Monday afternoon April 17th was a linked session between the Education Committee and Interest Group III (Art, Design, Psychology).

Elaine F. Becker of Minolta Corp. presented, "Micro Color Measurement- Applying Color Science at the Microscopic Level." Elaine introduced us to a Micro Color Measurement Instrument, which is basically a microscope colorimeter with apertures of 1.8 and .03 mm utilizing 45/0 geometry with a non-contact xenon lamp light source.

Kevin Loughrey, Gretag Macbeth gave a presentation, "The Present and the Future of Industrial Color Education-How far have we come and where are we going?" In regards to manufactured color, have

the seminars presented by instrument manufacturers spent too much time on theory and not enough time on applied color? What about Visual Measurement?

Joy T. Luke of Studio 231 presented "The Uniform Color Scales and Color Cleaver as a Teaching Tool." After reviewing three major color order systems, Joy demonstrated of Color Cleaver software. A lively panel discussion followed in the afternoon with audience participation.



Panelists, left to right: Jean Bourges, Mary Nielsen, Michael Brill, Meg Miele, Joy Luke, Georgia Kalivas, Eileen Becker and Kevin Loughrey. Not pictured: Geoffrey Rogers.

Tuesday, April 18th began the Color Pigments Manufacturing Association portion of the conference on, "Color Pigments for the New Millennium."

Speakers for this session included: Ms. Vivien Gilliam, U.S. Food & Drug Administration, "The FDA's Pre-market Notification Program for Food Contact Substances", Harold F. Fitzpatrick, ESQ. speaking on, "Regulatory & Legislative Issues of Interest to the Color Pigments Industry", Mr. Andy Zamoyski, "Environmental Aspects of Raw Materials Selection for non-Impact Printing", Mr. Russell Schwartz, Sun Chemical Corporation, "Surface Treatment of Pigments For UV Ink Applications", and Dr. Lawrence Lerner, Consultant "Quinacridone Pigments Past, Present, & Future, A Personal Perspective." Dr. Lerner gave us his thirty years of perspective on the subject.

Also presenting was Dr. Mandy Padley, European Colour (Pigments) Ltd. "Triatylcarbonium Pigments", explaining what Triatylcarbonium Pigments are, how they are produced and the advantage of their use and market applications.

Dr. Robert Mott, Bayer Corporation presented his paper on "High Performance Pigments for the Plastics & Coatings Industries." Mott started off with a definition of pigments and in what way they differ from dyestuffs. Also discussed was Surface Tension and Pigment Interaction.

Mr. Nurhan Becidyan, (James M Brown LTD.) United Mineral & Chemical Corp. presented his paper "Cadmium Pigments", Latest News From Europe. Mr. Becidyan covered European studies surrounding Cadmium Pigments and their use.

Dr. James White, The Shepherd Color Co. "The Latest Advances in Complex inorganic Pigments."

Dr. Mark Vincent, Dominion Color Corporation. "Lead Chromate, Truly High Performance Pigment." Dr. Vincent opened with the history of leaded pigments and their eventual regulation. He pointed out the pigment's high performance characteristics, which include high light fastness, excellent weather fastness, high heat resistance, excellent migration fastness, excellent bleed resistance, high opacity, clean bright high chroma hues.

Dr. Curtis J. Zimmermann, Engelhard Corp., "Pearlescent Pigments; Attributes of Powder Effect Materials." Dr. Zimmermann spoke about the structure of pearlescent pigments and how they are characterized.

Dr. Ingrid Denne, Merck KgaA. "Microscopic Evaluation of Effect Colors; Approach to Color Matching."

THURSDAY April 19th

Ms. Wendy Lorenzen, BASF Corp. "High Performance Yellow Pigments." Wendy gave us a very informative talk covering the High Performing Yellows manufactured by BASF.

Mr. Anthony Solazzo, Hockmeyer Corp. "Particle Analysis, Scale-up and Quality Control (How can you tell if you've made Advances in Pigment Dispersion?)"

Dr. Robert T. Marcus, Datacolor International.

"Color Measurement for Global Manufacturing." Dr. Marcus showed Datacolor's latest attempt at communicating color through the use of electronic standards utilizing several pieces of electronic equipment.

Mr. Paul Marvuglio, Creanova Inc. "Efficient Coloration of Factory Tints."

Mr. Quentin Avery and Mr. Brett R. Elias, Komline-Sanderson Filter Products Group "Automated Filtration Systems & Diafiltration Technology for Pigments Processing and Product Recovery." These talks covered Membrane Filtration design, advantages, and Automation.

Mr. Michael C. Pohl, Horiba Instruments Inc. "Importance of Particle Size Analysis."

Mr. Frederick T. Simon, Clemson University. "Pigments Used in Printing Ink." Mr. Simon explained the different types of printing technologies that are commonly found in the marketplace today, their typical application and requirements for use.

*Jerry Dimas
Color Communications, Inc.*

Datacolor Int'l Acquisition

Datacolor International announced the acquisition of Color Vision LLC, and the rights to Lucid, Inc.'s mc7™ spectrophotometer and all related intellectual property.

As a result of this acquisitions, Datacolor International has formed a new company, Color Vision, Inc to broaden Datacolor International's range of Web-based color solutions.

Future plans for Color Vision also include moving their corporate offices to Rochester, NY. Additional employees will be hired in the areas of sales, customer service, technical support, engineering and marketing.

For more information about Color Vision, Inc., please contact officials at Datacolor International, <http://www.datacolor.com>.

EUGENE M. ALLEN AWARDED ISCC HONORARY MEMBERSHIP

On 30 April, at the Magnolia Vineyard in Orefield, PA, a dinner and award ceremony took place, at which the ISCC presented Dr. Eugene M. Allen with Honorary Membership in the ISCC. Organized by Gene's wife Beatrice, the event included about 50 people comprising extended family and friends. Michael H. Brill, Jack Ladson, Hugh Fairman, and Ellen C. Carter represented the ISCC. Gene's son Julian was the extemporaneous but polished master of ceremonies.

Before presenting the award, Michael Brill delivered a testimonial speech. Much of that speech reviewed Gene's contributions and biography, which can be found in the last issue of this Newsletter. [Note: The award was scheduled for the Charlotte meeting on April 17, but it was given in Orefield because Gene was unable to travel to Charlotte.



After reviewing Gene's major accomplishments, Brill made the following remarks:

"Many companies arose and succeeded due to Gene Allen's colorant-formulation algorithms. Whenever you walk into a paint store with a sample you want to match, and the proprietor scans your sample with a machine that mixes the right amounts of paints, you owe the result to Gene. Let me be quantitative and borrow from Isaac Asimov's takeoff on Christopher Marlowe. If one Allen is defined as the intellectual force to launch a thousand companies, Bill Gates (as of this reading) is the equivalent of only a milli-Allen!"

Then, after reviewing the brief biography in the press release, Brill concluded:

"Gene Allen has contributed to the lives of all around him: through his family, through his students and co-workers, and through his friends in the ISCC. Lately I have become a late-blooming student of Gene's, and hope to collaborate on a paper with him soon. At this special get-together, Gene, I feel honored and privileged to be able to present this certificate to you." Apropos of Gene's considerable musical talent, his nephew Rami Vamos played a classical guitar piece he had composed in Gene's honor. Also, a string trio (Beatrice's sister Almita Vamos on violin, her husband Roland Vamos on viola, and Cathy Anderson on cello) played a very moving and memorable piece called "Elegy" composed by Gene himself. We all carried home the warmth and caring of the event. Thanks to Beatrice Allen and congratulations to Gene!

Michael H. Brill
ISCC Past-President

2000 ISCC Nickerson Service Award Presented to Mr. Hugh Fairman

Over the years, I have seen, and am here to testify and bear witness to why Fairman is receiving the Nickerson Service Award today. Hugh is faithful to many organizations, and of course we are focusing on his favorite life long interest, his profession, the ISCC.



Let me begin by reading from the ISCC Standing Rules. "The Nickerson Service Award was established by the Board of Directors at a meeting held on February 3, 1980. The award is presented as the occasion arises but no more frequently than once per year. The Nickerson Service Award is presented for outstanding long-term contributions towards the advancement of the council and its aims and purposes. The contribution may be in the form of organizational, clerical, technical or other services that benefit the Council and its members. The candidates must be the members of the Council and must have been active in the affairs of the council."

I remember the day that I met Hugh about 20 years ago. As a colleague, we participated in business ventures, and as friends Hugh is one of my best. We met in the basement of the Lexington Hotel in New York City on Feb 1984. Do you remember that Hugh? For those of you that were not there, Hugh was in charge of the ISCC Problem Committee 27 on Indices of Metamerism and was at the

time lecturing to a small audience of scientists. It took Hugh only six years to bring that effort to completion. Significant contributions to the color community occurred as a result of Hugh's leadership and interest. Hugh's proudest achievement to our science is the recognition and promulgation of Joseph Cohen's now famous work on Matrix R. The story is interesting, Hugh read Cohen's work published in a psychology journal and said; "This cannot be correct!" The concept of Matrix R captured his imagination; he could not stop thinking about it. Being the true scientist he is, he set out to disprove Cohen's theory. Well the rest is history. Today he is a convert and a strong advocate of Matrix R. Hugh took the concept of matrix notation expressed in psychological terms and turned it into useful concepts that we as colorists use today. Hugh published three papers about Matrix R in the 1980's.

New Terminology for Metamerism Revisited Results of ISCC Questionnaire on Metamerism Recommended Terminology for Matrix R

Hugh coined words and definitions such as; metameric potential and paramerism, and assigned terminology to Matrix R notation.

Fairman is the 14th recipient of the Nickerson Service Award. He joined the ISCC in 1964 and has been an active member since that time. Fairman served as the ISCC President from 1990 to 1992 and has been the ISCC Treasurer since 1996. He chaired ISCC Project Committee 27 "Indices of metamerism" from 1984 to 1990, Project Committee 44 "Uniform Color Scales" from 1988 to 1992, and the Problems Committee from 1984 to 1988. In 1996, he co-chaired the ISCC Annual Meeting, Instrumental Methods of Color and Appearance Assessment, in Orlando, Florida.

He is always willing to lend a helping hand and has come to my rescue on several occasions. For that I thank you Hugh. Above all Hugh has a tremendous attribute - his integrity. Hugh is a very honorable person. He is one of the most honorable men that I know. This is a rare quality in today's society, but it is so refreshing. I am pleased to know you, and proud

that you are my friend, Hugh. The ISCC benefits from this attribute since he is our Treasurer. He moved our bookkeeping and budget planning systems to computers in 1990. Hugh keeps us on a sound financial footing.

Each of us has an obsession, and I have learned to tolerate Hugh's. He frequently flies to California, Connecticut, and New York to listen to a musical genre called Jazz. His favorite group is South Frisco Jazz Band. During his term as President we celebrated the AIC Silver Jubilee. He organized the highly acclaimed ISCC Band, giving the musicians full credit while taking full responsibility for the members that lacked sufficient talent, including himself. Hugh, jazz is not our favorite music, but we forgive you.

We have collaborated on more than the ISCC. I remember fondly when together we went cavorting around England, searching for the Holy Grail, Camelot, King Arthur and the Round Table. This is the only time I have seen him fail, but I will confess it was not his fault. The ladies that accompanied us, and one of them was my wife, said after I told her of our quest, and I quote: "That's not true it's a fairy tale!" My wife and Hugh's friend Jean did not have the faith and we know that only those who have the faith will discover the truth.

But today I have the faith in my dear friend and colleague, Hugh Fairman. Hugh is one of the few Executive Committee members who served his term, returned to the Committee in another capacity and is continuing on in that capacity.

At this time I would ask Hugh to join me at the podium so that I may present the award.

*Mr. Jack Ladson
ISCC Annual Meeting
Charlotte, NC
April 2000*



2000 Macbeth Award

Introduction

given by

Michael H. Brill, 17 April 2000

The Macbeth Award was established in 1970 in memory of Norman Macbeth. It is presented biannually to a member, or former member, of the ISCC for recent important contributions in the field of color. The recipient of the Macbeth Award this year has many accomplishments to his credit. Brian A. Wandell, a professor at Stanford University, has contributed significantly to many areas of perception and brain science, from psychophysics and modeling to brain magnetic-resonance imaging. I mention a few of these accomplishments with which I have had personal encounter.

In 1984 Brian developed (with his student Larry Maloney) the first color-constancy algorithm that did not require a known spectral reflectance in the visual field. The "Maloney-Wandell algorithm" has become famous enough to win prizes. When I read Brian's OSA abstract, I was impressed enough to telephone him and to schedule a flight to San Diego to hear his paper. Later he wrote a number of articles on human color constancy. Five years ago he wrote *Foundations of Vision*, a landmark in clarity that united many seemingly incompatible threads of scientific inquiry. In response to an industrial need for vision models to assess visual quality, he generated a number of models of spatial and chromatic vision. The first of these was a model of "pattern-color separability" that he wrote with Alan Poirson. Then, to achieve compatibility with standard color-difference metrics, Brian and a student (Xumei Zhang) developed Spatial CIELAB (S-CIELAB). In S-CIELAB, opponent-color channels with different spatial tuning are represented in the standard CIELAB color space. Brian's models have been used, for example, to quantify the quality of digital half-tone printers. They have advanced our understanding of spatio-chromatic vision, in a simple and memorable way that is sure to open new doors in the future. I now present the 2000 ISCC Macbeth Award to Brian Wandell.

Brian A. Wandell Receives 2000 Macbeth Award



Acceptance Speech

Thank you for this honor. In accepting this award, I am keenly aware that it recognizes work resulting from a series of collaborations spanning the last twenty years. So, I am very pleased to accept this award on behalf of my collaborators as well, who have provided so much stimulation, support and insight. Please indulge me a few minutes to thank them.

In my first few years at Stanford, I was fortunate to have the opportunity to work on many problems in Vision Science with Larry Maloney, David Brainard, Allen Poirson and E.J. Chichilnisky. Living in Silicon Valley in the early 80s, we couldn't help but be impressed by the opportunities to develop technologies that would be useful in the developing digital world. With the help and support of our nearby colleagues at Hewlett-Packard, IBM, and Xerox, we received important support and encouragement to look at color imaging technologies.

In fact, it is a wonderful coincidence that two people on the podium today, who are important figure in the ISCC, both played a very important role in helping us move forward on problems in color science. As many of you know well that one of the key problems in science is the opposite of what one reads in the media: Having people steal your ideas is rare. Having people ignore a good idea is common. So, it is with great fondness and warmth that I remember receiving a phone call from Michael Brill some fifteen

years ago. Michael had read a fifty word abstract from my group. He was calling to ask for more details, and those of you who know Michael will immediately realize this must have been a long phone conversation. It was a sign of Michael's commitment as a scientist that he phoned and pursued the issues as thoroughly as he did. His interest was a great inspiration to me and the students,, and we were thrilled to learn that first-rate intellects like Michael would pay attention to our work.

Shortly thereafter, my students and I were lucky enough to attend a conference co-sponsored by the ISCC. I distinctly remember sharing a table at dinner with Hugh Fairman, who joins me on the podium today. His stories about the development of CIE metrics, coupled with Cal McCamy's stories about Edwin Land, made for wonderful dinner conversation and served to inspire us. By communicating the history of the field that he has helped to form, Hugh has provided yet another service to this organization and to my lab, specifically. I am delighted that we can share the podium today, and I can thank him personally.

In the early 80s, the computer industry brought enormous new opportunities and new challenges to color imaging applications. In particular, the extension of color science from its emphasis on simple uniform fields to the rapidly expanding fields of digital imaging, including printing and acquisition, called for the development of new color tools. My group was particularly motivated by the computational work on color appearance being done at Polaroid and MIT. It was during that time I first met my good friend and continuing collaborator, Shoji Tominaga, who brought to us many of his computational perspective. With support from our corporate partners, Xuemei Zhang, Heinz Bauml and I worked on creating and evaluating a spatial extension to CIELAB. Through their hard work and insights, the work that is specifically named in this award was created. Again, it was through organizations that sponsor this society that we had the opportunity to discuss, learn and share our work on digital imaging.

And what is next? The opportunities on the Internet are bound to expand rapidly, and the number of com-

panies working on Internet color rendering solutions continues to expand. New online digital imaging services are creating new fields for color applications (e.g., www.shutterfly.com). For some interesting applications, I encourage you to have a look at a site created by two of my post-docs, Alex Wade and Bob Dougherty (vischeck.com) who provide a method of exploring image appearance as seen by colorblind observers. Their site uses S-CIELAB, and they have found ways to extend the work to web page design.

Perhaps a less well known recent development, but one that I am particularly excited about, is the design and implementation of high quality yet inexpensive digital sensors built using CMOS technology (pdc.Stanford.edu). By building sensors on this technology, it will be possible to migrate certain digital imaging algorithms onto the sensor array itself. My Stanford colleague, Abbas El Gamal, and I lead a group that designs and builds sensors and associated digital imaging algorithms. One of the sensor designs, initiated and developed by Dave Yang, Boyd Fowler, and Abbas, has led to the implementation of sensors that acquire data over a very large dynamic range, exceeding even that of conventional films and far exceeding the display capabilities of most modern devices.

The algorithms team is working on the challenge of rendering the data in accurate and attractive forms. This project offers challenges and opportunities to the next generation of students, and I look forward to returning to the conferences sponsored by member societies to describe our work, and also to learn and be inspired by the contributions from others.

On behalf of my collaborators and myself, thank you for this recognition.

The work itself has been a great reward, and your acknowledgement of our work is deeply appreciated.

Brian A. Wandell

Congratulations

Color Research & Application

In This Issue, June 2000

Color is an increasingly important aspect of the goods we produce. And we make the assumption that others have the same perception of it as we do. However, from the further studies of the cones, we now know that in addition to people with color vision deficiencies, the group of people who are considered to have normal color vision have more diverse perceptions than first thought. Therefore, it is increasingly important to be able to evaluate precisely color vision. Many color vision tests have been developed, with the Farnsworth Munsell 100 Hue Test being one of the most recognized. In "Colour Vision Tests Considered as a Special Case of Multi-Dimensional Scaling" David Bimler, John Kirkland and Rob Jacobs examine new ways to look at the 100 Hue test as well as the H16 and D-15 vision tests.

As our use of color increases, we may pause to wonder if we will get to a point where there will be too much color. Our next author, Ken Sagawa, observes that the more color an image contains, the less visual comfort with the image is felt. This suggests the topic of his article, "Visual Comfort Evaluated by Number of Categorical Colors." He makes a distinction between colors falling into different color (hue) categories and shades or steps within a category.

The next article also relates to the evaluation of image quality. In "Influence of Chromatic Changes on the Perception of Color Image Quality," Alain Trémeau and Christophe Charrier point out that the estimation of color appearance and the vividness of colors are both of critical importance in the subjective judgement of image quality. They demonstrate that image quality also depends on the color appearance of each image element and on the appearance of background elements. Therefore local analysis plays an important role in subjective judgement.

As an illustration of an area where color becomes an important economic issue, we move to the paper industry. The whiteness of paper is one of the basic characteristics used to determine its price. Yet in

some instrumental measurements, grayer papers will give higher whiteness readings than those papers we perceive as being whiter. In their article Aleksey V. Makarenko and Igor A. Shaykevich discuss "Dependence of the Whiteness of Paper on the Surface Roughness and Illumination Conditions." They numerically model the measured whiteness as a function of surface roughness in different conditions of specimen illumination both allowing for and not allowing for the specular component of the scattered light. They find that while whiteness depends on both the surface roughness and the illumination conditions while the chromaticity coordinates depend on neither of these.

For our next article we observe how the colorimetric values, specifically tristimulus values are calculated from the spectral reflectance factor when measured with a spectrophotometer. For exact calculations it is necessary to either know the detailed characteristics of the instrument, including the monochromator-spectral transmittance, the spectral-power distribution of the light source, the instrument's spectral responsivity, etc. In "Spectral Reflectance Factor Deconvolution and Colorimetric Calculations by Local-Power Expansion," Claudio Oleari suggests that a second-order local power expansion is a good solution to the deconvolution of the spectral-reflectance factor with colorimetric computations.

Rather than observing the structure of tristimulus values, our next author, Rolf Kuehni looks at the structure of two color-order systems. In "A Structural Comparison of the Munsell Renotation and the OSA-UCS Uniform Color Systems," he compares the lightness, chroma, and hue scale steps of the Munsell Renotation and equilateral legs of the triangles used to form the basic structure of the Uniform Color Scales of the Optical Society of America. While the biggest differences between the two systems are in the first steps away from neutral gray, we learn that there are other differences also.

In this issue we have had articles on the evaluation of our perception of color, the evaluation of colored images, the evaluation of colored [white] products, and the evaluation of our computational and ordering systems. However, probably the broadest

aim is the study of color in space. For our final article, Monica Billger describes a tool for the evaluation of color appearance in large spaces such as a room. In the past, for interior design we have relied on verbal descriptions of observers, or design intuition of the professional. However, these both lacked precision or a method of quantification. In "Evaluation of a Colour Reference Box as an Aid for Identification of Colour Appearance in Rooms," Ms Billger describes the color reference box with its standard source of illumination. This tool provides a reference situation where color samples can be visually compared with the color of the room. The crucial problem is that the same color sample in the box is perceived differently as the observer adapts to various lighting conditions.

For this month's Color Forum, Rolf Kuehni discusses "Threshold Color Differences Compared to Supra-Threshold Color Differences." There have been two basic approaches to descriptions of global color spaces. The first begins with threshold color difference, and adds steps of these increments. The second approach takes Euclidean distances between points in opponent color channels, a and b, and the lightness signal, L. In the color forum these approaches and their results are compared.

Finally in this issue Danny C. Rich reviews the book, *Applied Spectroscopy*.

Ellen C. Carter, CR&A Editor

Detroit Colour Council March Meeting

The first DCC meeting of 2000 was held on March 23, 2000, at the Novi Hilton. The presentation, "Light, Color & Visual Perception" was given by Stefan Graf from Illumination. Stefan gave a wonderful slide presentation on "The Practice of Lighting Design." He also used portable light booths, filters and an array of various lamps. The talk was both educational and interesting. He touched of the psychology of light, light sources and lamps, and the use of lighting by companies to draw attention to their products. Stephan also had several demonstrations to show the different degrees of Kelvin.

Jim Keiser

AIC 2001

History of AIC: In 1967, the Inter-Society Color Council Board, enthusiastically endorsed the formal launching of the International Color Association. It was agreed that the French name of the organization be: Association Internationale de la Couleur, that the German name be: "Internationale Vereinigung für die Farbe, that the English name be: International Colour Association, and that the American name be: International Color Association. It was also agreed that the acronym be AIC, the initial of the French name.

Deane B. Judd, acting in behalf of the Board, signed the founding document in Washington, D.C., on June 21, 1967. The other signers were:

Centre de 'Information de la Couleur (France) — Y. LeGrand
The Colour Group (Great Britain) — R. W. G. Hunt
Comite Español de Color (Spain) — Lorenzo Plaza
Swedish Colour Group (Sweden) —Gunnar Tonnquist
Pro Colore (Switzerland) — E. Ganz
Color Science Association of Japan — T. Fukuda
Nederlandse Vereniging von Kleuresnindie — J. L. Ouweltjes

Eleven observers of the founding signed a document attesting to personal support of the AIC:

F. Rotter, Austria
O. Bruckmueller, Austria
Günter Wyszecski, Canada
J. Krtil, Czechoslovakia
W. D. Wright, England
M. Artom, Italy
Manfred Richter, Germany
Wolfram Münch, Germany
H. D. Einhorn, South Africa
A. Stenius, Sweden
V. E. Kartachevskaja, USSR

Prof. W. D. Wright was elected to serve as President, and Ernst Ganz, Switzerland was elected Secretary. Those in attendance at that historic first meeting are shown in the following photograph.



Seated, left to right: M.Artom, Y.LeGrand, D.B.Judd, V.E.Kartachevskaja, M.Richter, W.Münch, J.L.Ouweltjes, P.L. Walraven.
Standing, left to right: E.Ganz, Mrs.Artom, W.D.Wright, R.W.G.Hunt, N.Macbeth, H.D.Einhorn, A.Stenius, G.Tonnquist, L.Plaza, J.Krtil, T.Higashi, F.Rotter, T.Fuguta, G.Wyszecski, O.Bruckmueller.

By the year 2000, just in 69 years the membership increased and there are now 25 countries that are members of AIC and they are in alphabetic order:

Argentina (Grupo Argentino del Color)
Australia (Colour Society of Australia)
Austria (Österreichischer Verband Für Electrotechnik)
Bolivia (Asociacion Boliviana del Color)
Brazil (Associacao Brasileira da Color)
Bulgaria (The Colour Group of Bulgaria)
Peoples' Republic of China (Color Association of China)
France (Centre Francais de la Couleur)
Germany (Deutscher Verband Farbe)
England (The Colour Group of Great Britain)
Hungary (Hungarian National Colour Committee)
India (The Colour Group of India)
Italy (Associazione Ottica Italiana)
Japan (Color Science Association of Japan)
Republic of Korea (Korean Society of Color Studies)
The Netherlands (Nederlandse Ver. Voor Kleurenstudie)
Norway (Norsk Farveforum)
Poland (Central Office of Measures)
Slovenia (Slovenian Colourists Association)
Republic of South Africa (Colour Group of the South African Optical Society)
Spain (Comité Español Del Color)
Sweden (Stiflensen Svenskt Färgcentrum)
Switzerland (Pro Colore)
Thailand (The Color Group of Thailand)
United States of America (Inter-Society Color Council)

The following countries are represented by Observers: Canada, Denmark, Finland, Greece, Ireland, New Zealand, Republic of Panama, Slovak Republic, and Turkey.

The Inter-Society Color Council has the honor of hosting the 9th Quadrennial Congress of the International Colour Association, (Association Internationale de la Couleur, Internationale Vereinigung für die Farbe) on June 24-29, 2001. This Congress promises to be stimulating and innovative as state-of-the-art color science, technology, art, and design ideas are shared. Invitation on behalf of the Inter-Society Color Council and the Organizing Committee of the AIC Color 01 Rochester, I would like to invite you to the ninth AIC Congress to be held in "The World's Image Centre," Rochester, New York, USA. The dates for the Congress will be June 24th to June 29th, 2001.

The AIC Quadrennial Meeting has not taken place in the United States since Color 77 Troy so we are pleased and excited about hosting our color colleagues from around the world 24 years later in the year 2001. This Congress promises to be stimulating and innovative as state-of-the-art color science, technology, art, and design ideas are shared. You can see from the First Circular that we are preparing a dynamic program for the Congress, including symposia, invited talks, contributed and poster papers, and an entertaining excursion and delectable banquet.

I strongly encourage you to accept this invitation to participate in the ninth AIC Congress and join with us in making an exciting forum for the interchange of the latest color concepts that we all face in the 21st century. All your United States Inter-Society Color Council colleagues look forward to your contributions

and to welcoming our color friends from all over the world to Rochester, New York, USA in 2001.

Program Topics

The Congress will include Special and Invited Lectures, Symposia, and Oral and Poster Presentations covering the whole field of Color Science, Technology and Design. Encouraged topics are as follows:

- What is color? Topics could range from the philosophic to the practical description and causes of color.
- What is color for? Color styling in fashion, cosmetics, home furnishings and automobiles, color design, color in art, color in architecture, environmental color design, graphic arts, color coding, and color in culture.
- How does color work? Color in light sources, color vision and color deficiencies, clinical and biological aspects, computational color vision, machine vision, color preference, color harmony, color memory, color illusions, and color image processing.
- How can we control color? Colorimetry, color difference, color measurement, appearance measurement, photometry, color rendering, color adaptation, color constancy, metamerism, color imaging, color reproduction, device independent color, color management systems, color communications, color displays, color hard copy, color order systems, industrial color, color matching, and color restoration.
- How should we teach color? Color education, teaching aids, academic and industrial education needs, and continuing education in business. For more information on this, contact Allan Rodrigues, Technical Program Chair, allan.b.rodrigues@usa.dupont.com.

Exhibition

An exhibition featuring the latest developments in Color Technology will be held from June 25-26, 2001.

Displays will include:

- Colorimetry tools and instruments
- Image processing/software
- Latest books and publications, color samples, etc.

For more information, contact Kevin McGuire, Exhibition Chair. soluxtli@earthlink.com.

Social Program

The social program will include many exciting events such as a welcome reception, a conference banquet and an excursion that will provide ample opportunity to socialize with colleagues while enjoying the sights of the "imaging city." Additionally, companion events will be available for guests of conference attendees. Rochester boasts many options for entertainment to include museum visits, sporting events, musical performances, outdoor activities, and the nearby wine country of the Finger Lakes Region.

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CALENDAR



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

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2000

- May 8-10** CORM Annual Conference & Meeting, Marriott Airport Hotel, Rochester, NY
 Info: Philip Wychorski, Eastman Kodak; 761-722-7022; 716-722-4793 fax or Ann Laidlaw, She-Lyn, Inc., 336-274-1963; fax 336-274-1971 ; ann@shelyn.com
- May 15-18** Argencolor 2000 - The 5th Argentine Color Congress, Mendoza, Argentina Contact: Prof. Haydee Palomo, extarte@raiz.uncu.edu.ar or Prof. Jose Luis Caivano, jcaivano@fadu.uba.ar
- May 22-26** ASPRS Annual Conf., Omni Shoreham Hotel, Washington, DC. 301-493-0290; fax: 301-493-0208; www.asprs.org.
- May 26** TAGA/VDD 4th International Printing & Research Congress, with Drupa 2000, Congress Centrum Dusseldorf, Room 3, Dusseldorf Fairgrounds, Dusseldorf, Germany
- June 11-14** ASTM Committee D-1, Paint and Related Coatings, Materials and Applications, Ascagua's Nugget, Reno, NV Info: T. Brooke, 610-832-9729; fax: 610-832-9666; email: tbrooke@astm.org
- June 20-23** ASTM Committee E-12, Color and Appearance, Sheraton Hotel, Toronto. Info: Bode Buckley: 610-832-9740; fax: 610-832-1547; bbuckley@astm.org
- Sept. 12-20** AATCC Intl Conference And Exhibition, Benton Conv. Ctr, Winston-Salem, SC, Hilda McQueen, Tel: 919-549-3549; Fax: 919-549-8141, mcqueenh@aatcc.org. Website: www/aatcc.org
- Sept 17-19** CAD/SPE RETEC 2000 "Your ticket to Great Colorants and Additives" Washington, D.C. Sandra Davis--DuPont 302-999-2540 sandra.p.davis@usa.dupont.com
- Oct. 1-4** CGIP 2000, Intl Conf. on Color in Graphics and Image Processing. St.Etienne, France. Info: Alain Tremeau tremeau@vision.univ-st-etienne.fr website: www.univ-st-etienne.fr/~iupvis
- Oct. 18-20** FSCT Annual Meeting Technical Program, Lakeside Ctr, McCormick Place, Chicago, IL, Info: FSCT, 492 Norristown Rd., Blue Bell, PA 19422; 610-940-0777; fax: 610-940-0292; rodm@coatingstech.org.
- Oct. 22-27** OSA Annual Meeting, Providence, RI; Info: Meeting, 202-416-1907, cust.serv@osa.org; Exhibits, 202-416-1950, exhibits@osa.org
- Oct. 29-31** Color Marketing Group Fall International Conference 2000, Boston, MA Tel: 703-329-8500
- Nov. 1-3** Human Factors and Ergonomics Society, Europe Chapter, Maastricht, The Netherlands. Further information: http://utopia.knoware.nl/users/hfsec/meeting/ec_meet.htm. (It is not necessary to be a member of the HFES to participate.)
- Nov. 6-7** 2000 AIC Meeting Seoul, Color and Environment. Seoul, Korea, 82-2-365-514 fax: 82-2-365-0014

Nov. 7-10	IS&T/SID 8th Color Imaging Conference Color Science, Systems & Applications, SunBurst Resort Hotel, Scottsdale, AZ. 703-642-9090 Fax: 703-642-9094 info@imaging.org ; www.imaging.org 2001
Jan. 23-26	ASTM Committee D-1, Paint and Related Coatings, Materials and Applications , Info: T. Brooke, 610-832-9729; fax: 610-83-9666; tbrooke@astm.org
Jan 23-26	ASTM Committee E-12, Color and Appearance , Embassy Suites, Ft. Lauderdale, FL. Info: Bode Buckley, 610-832-9740; fax: 610-832-1547; bbuckley@astm.org
March 19-20	Williamsburg Conference, ISCC Color Course , Color Basics for Industry, Cleveland, OH, Airport Marriott. Info: Roland Connelly, SheLyn, Inc., roland@shelyn.com , Richard Harold, Color and Appearance Consulting, 703-709-5454 rwharold@worldnet.att.net
April 1-3	Color Marketing Group Spring International Conference , Orlando, FL 703-329-8500 cmg@colormarketing.org
April 22-25	TAGA Annual Technical Conference , Atlanta, GA. Info: 716- 475-7470; fax: 716- 475-2250, TAGAOfc@aol.com ; website: http://www.taga.org
April 23-27	ASPRS Annual Conference , St. Louis, MO, 301-493-0290; Fax: 301-493-0208 www.asprs.org .
June 24-29	ISCC/AIC Mtg , Rochester, NY; Paula J. Alessi, 716-477-7673; Fax: 716-722-1116 paula.alessi@kodak.com
Nov. 5-9	IS&T/SID 8th Color Imaging Conf. , Color Science, Systems & Applications, Scottsdale, AZ. 2002
February	ISCC Williamsburg Conference , Solutions for Industrial Color Problems, Chair: Ralph Stanziola rascolor@juno.com
June 9-13	Fourth Oxford Conference on Spectrometry , Davidson College, Davidson, N.C. Info: Art Springsteen avian@kear.tds.net Teresa Goodman tmg@npl.co.uk

Jobs Wanted!

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

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

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

ADVERTISING POLICY

The ISCC advertising policy for the Inter-Society Color Council News is as follows Pre-paid color-related advertising will be accepted thirty days in advance of the publishing date. The rates are

\$ 100	business card-size ad
\$ 250	1/4 page ad
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Artwork must be publisher ready and will be returned within 30 days after publication. The publishers reserve the right to determine the acceptability of the advertising. A 20% discount offered for a yearly contract. Contact: Tek Celikiz, ISCC News Editor or Cynthia Sturke, ISCC Office Mgr.

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Editor: Prof. Gultekin (Tek) Celikiz

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Please note: Next issue deadline for material submission is June 1st. All submissions must be in English.

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