Inter-Society Color Council *News*

Issue 447 Sep - Oct 2010

ISCC 2010 Ballot

Now is the time to complete your ballot for officers and directors of the ISCC. This year you may either return a ballot to the ISCC office or complete one at www.surveymonkey.com/s/WY89FF5. Biographies of the candidates are included in both places. All members of the ISCC have an opportunity to vote for president, secretary and treasurer and three directors. Ballots are due at the ISCC office (by email (isscoffice@cs.com), fax or mail) or on the internet site by October 1, 2010. A ballot is enclosed with this newsletter. The fax numbers and mail address are below in the footer in this newsletter.

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Contents

Rolf Kuehni to Receive ISCC Honorary Membership

The ISCC Board and Executive Committee unanimously approved ISCC Honorary Membership status for Rolf G. Kuehni. To quote from the ISCC Bylaws Honorary Membership is reserved for ISCC members who have "rendered signal service to the Council or to those fields served by the individual Member-Bodies of the Council, in such manner as to aid in accomplishing the objectives of the Council." The objectives of the ISCC emphasize color education, and toward that goal Rolf has worked tirelessly for at least four decades. Many books, book reviews, refereed articles, technical presentations, committee memberships, and historic translations all testify to this work.

Rolf was educated in Switzerland and Germany. After a career in dye application technology and business management with Bayer Corp. he was named Adjunct Professor of Color Science at North Carolina State University. He was one of only three Editors-in-Chief of *Color Research and Application* since the journal's inception in 1976, and is the author of some 75 peer-reviewed papers and six books on color science and technology.

Rolf's books span fields from physical colorant formulation to subjective color spaces:

Computer Colorant Formulation (Lexington Books, D.C. Heath, 1975)

Color: Essence and Logic (Van Nostrand Reinhold, 1983).

Color Space and Its Divisions: Color Order from Antiquity to the Present (Wiley, 2003).

Color: An Introduction to Practice and Principles (Wiley, 1st Ed. 1997, 2nd Ed. 2005).

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With A. Schwarz, *Color Ordered: A Survey of Color Order Systems from Antiquity to the Present* (Oxford U. Press, 2008)

Color Vision and Technology (AATCC, 2008), e-book.

Also, ISCC readers should look at Rolf's recent excellent historic translations (from French and German) available at www.iscc.org/resources/translations.php. Stay tuned for new ones: they just keep coming.

Finally, Rolf has been active in several CIE technical committees. Always attentive to technical or historical ambiguities, he clarifies the work by relating it to past efforts and future goals.

Rolf will receive his Honorary Membership at the awards banquet October 7 at the ISCC annual meeting in Raleigh.

Michael H. Brill, Datacolor

Call for papers: AIC 2011

November 15, 2010 is the new date for submitting an abstract for the AIC 2011 Midterm Meeting of the International Colour Association (AIC).

The meeting, Interaction of Colour & Light in the Arts and Sciences, will be held June 7-10, 2011, at Zurich University of the Arts, Zurich, Switzerland.

Abstracts for either an oral paper or a poster presentation of unpublished work are to be submitted in English. The length of the abstract should not be less than 500 nor more than 2000 words. The submission template and guidelines for preparation of an abstract are at the website www.aic2011.org.

All authors with an accepted paper are required to participate in the AIC 2011 Midterm Meeting and pay the early registration fee as a full delegate. If multiple, same-single-author abstracts are submitted and accepted, only one will be scheduled for an oral or poster presentation. Multiple contributions as a co-author are only possible if another co-author registers, presents the paper and participates in the AIC 2011 conference. Abstracts should be submitted as both an attached WORD-file (DOC or DOCX files) and a PDF-file. All submissions should be sent to: info@aic2011.org. Written papers will be due by March 5, 2011.

HUE ANGLES

(send contributions to mbrill@datacolor.com)

Once in a while it is good to revisit an old idea we decided not to pursue, to see what has emerged instead…

Thoughts on Annotated Webliography and its Relatives

Ten years ago the ISCC approved a Project Committee to establish an Annotated Webliography of Color. The goal was to point to excellent Web sources of color information. The scope was daunting: Criteria to select a website for annotation/citation, a first selection of websites for citation, rules for updating the resulting Annotated Webliography, and transition of the effort to a standing committee that (ever vigilant) would update the webliography.

As the chair, I started to compile a list of websites, and several people added to it. But soon enthusiasm waned. Also, some URLs on the list began to fail. I resigned as committee chair in 2002 because the Web medium seemed too transitory to justify ever-vigilant ISCC checking. Ironically, the Project Committee description is fossilized at www.iscc.org/functions/pc.php#proj53. If nothing else, it proves we were among the first to coin the term "webliography"!

Where has the Web gone since 2002? Aside from installing more toll gates so you have to pay for information (in my opinion a bad thing), it has moved in two directions, attempts at objective truth (often consensus-driven, exemplified by Wikipedia) and undisguised opinion (blogs). The goal of our Webliography was more like Wikipedia's model. I will now discuss two excellent websites as examples and try to classify them. My classification doesn't follow ISCC interest-group stereotypes.

First consider Jill Morton's "Color Matters" (www.colormatters.com). It addresses artists and designers, but there are also stories relating to color science. My favorite from "Color Matters" is about a red-tailed hawk named Windwalker who, from a perch on the author's arm, removed and discarded all the strawberries from her strawberry short cake, presumably because "Windwalker had never seen me eat anything as bloody red as the meat that he himself consumes on a daily basis. He was using a delightful combination of memory, loyalty and his ability to discern colors to intelligently correct a situation that in his mind was not normal."

Is "Color Matters" more like Wikipedia or more like a blog? Most of its content makes it more like Wikipedia, even though it has a small, carefully labeled blog section and a forum called "Color Tales." Outside these sections, I don't see much editorializing, but lots of information gathering. In one way it is not like Wikipedia: Its structure makes it hard to locate particular material. If you want to find the article on Windwalker, it's best to type "Color Matters" "Windwalker" into Google.

Now consider the "Mostly Color Channel" (www.mostlycolor.ch)—which I abbreviate as MCC. MCC is the vision of Giordano Beretta (an innovator in color printing technology), but with contributions by Nathan Moroney and three others. MCC cross-references to many sites, including CIE activity reports, the ISCC historical translations and Hue Angles. But it offers much more, including videos, slide presentations, historical essays and blog entries—a huge amount of work! One of the historical essays quotes a letter to *Science* from toymaker Milton Bradley describing a telephone-controlled color wheel to "telephone a color"—an 1892 ancestor of Ralph Stanziola's VCS-10! There's also a video showing a display comprising a 3D swarm of individually controllable lights. Among the blog entries, Giordano offers book reviews—some in Italian. Try his review of *Snakes in Suits* on for size!

The site originated under the auspices of Hewlett-Packard, but now is independent of HP and represents the untrammeled opinions of its authors. You will see lots of color technology, as well as cultural artifacts that involve color. But also you will see intellectual tangents and corners of knowledge—interspersed with passionate editorials. The site is not organized for easy access to targeted information, but if you just click on anything you will be fascinated, as I was. (Again, Google will help you find a particular item.)

I think MCC is the *Whole Earth Catalog* of color—but with no price-tags. Interestingly, Steve Jobs called the *Whole Earth Catalog* the forerunner of

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the World-Wide Web—a sort of "Google in paperback form" (http://en.wikipedia.org/wiki/Whole_Earth_Catalog). I disagree, because unlike Google, the Whole Earth Catalog purveyed a vision—to enable people to develop a self-sustainable lifestyle.

MCC also has a vision, conveyed in the footer of Giordano's blog: "The Internet is an amalgam of forms blurred under epistemological pressures. In Søren Kierkegaard's words, under this flat shower of leveled information, where everybody is interested in everything and nothing is too trivial or too important, people just accumulate information and postpone decisions indefinitely, i.e., nobody takes action and nobody is responsible for truth — there is no mastery, just gossip. He called this the æsthetic sphere of existence, exhorting us to evolve to the ethical sphere, where we do not just accumulate information but take action and make commitments. Blogs are instruments to overcome flatness by creating opportunities for vertical activities. In this sense this blog is a view from my window — a collection of tidbits I judged relevant to computational color science and in general to the promotion of scientific excellence in areas of strategic importance for the future of research, economy and society."

That's a hard act to follow, Giordano. Bravo!

Michael H. Brill

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Office of President

Scot R. Fernandez

Scot R. Fernandez is currently a Creative Technical Services Manager at Hallmark Cards in Kansas City, MO. In his current role he leads three departments: Technical Design, Card Back, and Pocket Identification. All three departments create the various digital files required to produce Hallmark Greetings. Scot joined Hallmark in 2003 as a Publishing Engineer III, and was promoted to a Senior Creative Technology Specialist prior to his current assignment. In his previous assignment he shared research and development responsibilities for the color/imaging systems for Hallmark Greetings. He developed a distributive inkjet proofing solution that simulates a multi-channel litho environment, which evolved into Hallmark's current soft proofing solution. Other areas of continued research include the virtual simulation for secondary print processes, and artwork reproduction.

Prior to joining Hallmark, Scot completed his education at Rochester Institute of Technology (RIT) with a B.S. in Imaging and Photographic Technology, an M.S. in Color Science, and an M.S. in Imaging Science. His graduate research was completed within the Munsell Color Science Laboratory (MCSL). The emphasis of his graduate research included the evaluation of observer preferences for "preferred" color reproduction intents across varied cultural backgrounds, as well as the performance evaluation of iCAM as a complex image difference model against observer preferences for color reproduction. His professional affiliations include the Inter-Society Color Council (ISCC), Photographic Marketing Association (PMA), Society for Imaging Science and Technology (IS&T), and the International Color Consortium (ICC).

Office of Treasurer

Cameron Miller

Cameron Miller is a research chemist with the National Institute of Standards and Technology in the United States. Cameron Miller obtained his PhD in Physical Chemistry from Cornell University (1994) studying unimolecular energy transfer using high resolution infrared optothermal spectroscopy. He joined NIST in 1996, to work in the fields of Photometry and Retroreflection and in 2003 was appointed the Photometry Project Leader. His research areas include all aspects of photometry, retroreflection, measurement uncertainty and vision science applied to lighting.

Cameron is active in standards organization and committees, such as CIE, CIEUSA, and ASTM, and professional societies such as ISCC, NEMA, and CORM. He is also involved in the National Voluntary Laboratory Accreditation Program as an assessor for the Energy Efficient Lighting Program and the Calibration Program.

Office of Secretary

Ann Laidlaw

Ann Laidlaw is Global Supply Chain Program Manager at X-Rite Inc, with responsibility for supporting users and sales staff, and investigating innovative applications of color management for textiles

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Metameric Blacks: A Color Curious Column

Ever wonder ... "why aren't my photographs the same colors as the original scenes?"

The most direct answer is simply that cameras are not the same as people and do not respond to color in the same way. More specifically the red, green, and blue detector sensitivities in a digital camera are not the same as, or even simply related to, the long-, middle-, and short-wavelength sensitivities of the human visual system. If they were, then computational procedures could be completed to make perfectly accurate color images from the camera data. Even if such perfect color data were recorded by a digital camera, there might still be differences due to variations in the displays and printers that we use to render our images. Lastly, even if all the above systems were perfectly accurate, we might not like the result and prefer to see a different image; perhaps one with colors that look better than the original scene (e.g., bluer sky, greener grass, nicely tanned skintones).

To further explore the differences between human and camera color "vision", meet MetaCow! The attached images are part of a larger MetaCow image that was created to evaluate the quality of imaging systems. The two cows on the left appear as they would to a human observer. On the right, the same two cows are shown as they would be "seen" by a typical digital camera. The front and back halves of the cows look different to the camera because it does not respond to color like a human. This is because the front and back halves of the cows are matameric color matches for the human observer.

The objective of reproducing preferred colors has driven the photography industry since the beginning and is one of the main reasons that most imaging systems aren't designed to accurately reproduce the colors we see in the world; the cameras are designed to give us something we like better.

Color preferences are difficult to quantify and specify, but in general people prefer color reproductions that are accurate in hue, slightly more saturated than the original scene, and higher in contrast (the rate of change from dark to light). Pay attention to photographs that you get from your camera and print services and you will probably notice these sorts of changes. Do some experiments by taking pictures of objects you can later compare with the resulting photographs.

Content of this column is derived from *The Color Curiosity Shop*, an interactive website allowing curious students from pre-school to grad-school to explore color and perhaps become interested in pursuing a science education along the way. Please send any comments or suggestions on either the column or the webpage to me at mdf@cis.rit.edu or use the feedback form at whyiscolor.org.

Mark D. Fairchild,
Rochester Institute of Technology

Inter-Society Color Council's 2010 Annual Meeting
October 7 and 8, 2010
North Carolina State University, Raleigh NC

Thursday October 7, 2010

8:00 AM-8:30 AM	Registration and continental breakfast
8:30 AM-8:40 AM	Welcome
Keynote Address	
8:40 AM-9:20 AM	KEYNOTE: Color in digital preservation, digital in color preservation *Robert Buckley*
Interest Group 1	**Basic and Applied Color Research** **Session Chair: Ann Laidlaw**
9:20 AM-9:50 AM	The effect of texture on perception and measurement of whiteness *Renzo Shamey*, North Carolina State University
9:50 AM-10:20 AM	Feynman's paint-mixing problem, redux *Michael H. Brill*, Datacolor
10:20 AM-10:40 AM	Break
10:40 AM-11:10 AM	Describing color differences: How good are your color comments? *Carol Tomasino Revels*
11:10 AM-11:40 AM	Instrumental assessment of complex multicolored patterns *Renzo Shamey*, North Carolina State University
11:40 AM-1:10 PM	**Banquet and Annual Meeting**
Interest Group 2	**Industrial Applications of Color** **Session Chair: Jim Roberts**
1:10 PM-1:40 PM	Color tolerances in black and white *Ann Laidlaw*, X-Rite Inc.
1:40PM-2:20 PM	Colorimetric solid phase extraction (CSPE): Using color to monitor spacecraft water quality *Daniel B. Gazda*, Wyle Integrated Science
2:20 PM-2:50 PM	Objective mottling control at the line with new and innovative testing technologies *Gabriele Kigle-Böckler*, BYK-Gardner GmbH
2:50 PM-3:10 PM	Break

Inter-Society Color Council 2010 Annual Meeting, Cont.

Interest Group 3	**Art, Design and Psychology** **Session Chair: Barbara Martinson**
3:10 PM-3:40 PM	A brief history of the idea of yellow, red, and blue as chromatic primaries in painting *Rolf G. Kuehni*, NC State University
3:40 PM-4:10 PM	Reconstructing the original colors of Vincent Van Gogh's *The Bedroom*, part of the permanent collection of the Van Gogh Museum, Amsterdam *Roy Berns*, RIT
4:10 PM-4:40 PM	A brief history of the color circle *Rolf G. Kuehni*, NC State University
4:40 PM-5:10 PM	Revisioning color *Carl Jennings*, University of Hawai'i
5:10 PM-6:30 PM	**T-Shirt Printing**
	Poster Session
6:30 PM	**Reception, College of Textiles Atrium**
7:00 PM	**Dinner, College of Textiles Atrium**

Friday, October 8, 2010

Education Session	**Session Chair: Dave Wyble**
9:00 AM-10:00 AM	Measurement and specification of gonioapparent color *Allan Rodrigues* and *Larry Steenhoek*, Dupont Performance Coatings
10:00 AM-10:30 AM	Do's and don'ts of color instrument correlation studies: How to get meaningful results *Roland Connelly*, X-Rite Inc
10:30 AM-11:00 AM	Break
11:00 AM-12:00 noon	Color management of textiles *David Hinks* and *Nancy Powell*, NC State University
12:00 noon	**Box Lunch**
12:15 PM	**Closing**

Color Research and Application IN THIS ISSUE, October 2010

We open this issue with two articles dealing with basic issues in colorimetry. First, in the article, "An Improved Method for Correcting Radiance Data for Bandpass Error," Hugh S. Fairman discusses a newly proposed bandpass-correction formula. After reviewing the earlier techniques, Mr. Fairman describes how the new formula is obtained by refinement and extension of known formulae based on an empirical definition of the parameters. Then its goodness is evaluated by comparing corrected spectra with the corresponding reference spectra. The correction made on simulated spectral data is obtained by supposing that the instrument function is triangular and the Lagrange interpolation represents the true empirical data in a good way.

In our next article, Claudio Oleari discusses the "Deconvolution of Spectral Data for Colorimetry by Second Order Local Power Expansion." This article deals with the bandpass error correction that is mainly concerned with colorimetric measurement. Most current literature (and the previous article) deals with the situation where the passbands are symmetrical and triangular, and the measurement interval is equal to the bandwidth. However, this is not always the case, and this article will come in handy for those persons with irregular passband shapes and/or intervals, to calculate the deconvolution coefficients that apply to their particular circumstance. CIE TC2-60 is also considering the problem and instrumental function measurement.

For our next article we move to the field of architecture and more explicitly the color design process. Color is an integral element of architecture. However, often the mock-up models are presented in white or achromatic colors, then the actual color used is added later. In "The Architectural Colour Design Process," Sibel Ertez Ural and Semiha Yilmazer present a study that deals with the different visualization techniques, commonly used during the architectural color design process, by investigating the consistency of designers' evaluations via semantic ratings. Drs. Ural and Yilmazer examine four sequential stages of the architectural color design process, namely, color chips/samples, abstract compositions, perspective drawings and 3D models. They conclude that abstract media can be used as a tool for initial color-design decisions in architecture; however, scrutinizing color design through a media simulating contextual characteristics and three-dimensional relations is inevitable during the progression of the architectural color-design process. Also the type of light and illumination level used are very important in the color-design decisions.

The previous article leads us directly into the issue of color appearance. For our next article Tsuei-Ju Hsieh and I-Ping Chen examine "Colour Appearance Shifts in Two Different-sized Viewing Conditions." While the CIE has defined two standard observers with 2º and 10º visual fields, people are evaluating color appearance at much larger variations in visual field size. In the experiment described by Mr. Hsieh and Dr. Chen the color stimuli were 0.5º x 0.5º and 30º x 50º patches on a display. Their results showed significant brightness increases in large size conditions across target colors, which is consistent with earlier researchers' findings. However, in addition they found a pattern of induced hue shifts associated with size that had not been reported earlier.

Our final three articles in this issue deal with measurement of the color of various materials: food, rocks, and teeth. First we have the "Evaluation of Hunter Color Values L, a, and b of Mixed Powder." In this article Kerui Zhu, Irakoze Pierre Claver, Philip John Kanu, Kexue Zhu, Haifeng Qian, and Huiming Zhou investigated how the color of mixtures of wheat, corn, soybean, defatted soybean, defatted wheat germ, oat and buckwheat changed when the percentage by mass of the different individual powders in the mixed powder is varied. They then analyzed the relations between color of the mixtures and the color of different individual powders and derived three equations to express these colorimetric relationships.

In the previous article the colored powders were measured using a single tristimulus colorimeter. In our next article the authors deal with a rough textured, multicolored material, granite. They make the measurements using a spectrophotometer with two viewing apertures: 5 and 10 mm diameter, and a colorimeter that has two measuring heads: 8 mm diameter viewing area and 50 mm-diameter viewing area. Beatriz Preito, Benita Silva, Patricia Sanmartín, and Francisco Martínez-Verdú report on the "Measuring the Color of Granite Rocks. A Proposed Procedure." This article provides an adaptable and affordable methodology of study supported by statistical

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analysis, which has been successful in examination of the factors affecting the color measurements on granite rocks and demonstrates that color may be affected by both material and instruments properties.

For our final article, a spectroradiometer is used to measure the color of teeth and gums of people in various Chinese ethnic groups. Dentists often use the color of gums to help assess the dental health of patients. However, it remains uncertain whether there is any difference in the color of oral tissues between different nationalities or ethnicities. Therefore Chengzhi Gao, Adalet Khasim, Haishan Liu, and Jing Wang made an "Investigation on Vermilion, Gingiva and Tooth Color of Young Uygur and Han populations in Xinjiang, China in China." Their findings suggest that there may be a relationship between the color of oral tissues and genetic background. For detailed results please read the article.

I would like to close this column with a reminder to readers to go to the *Color Research and Application* website to have an early view of forthcoming articles that have been already accepted for publication in the journal. At the date I wrote this column there were over 30 articles posted there.

Ellen Carter
Editor, Color Research and Application

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and related industries. She is an active member of ISCC, CORM, SPE, and DCC and has served on ISCC, AATCC, and CORM Boards, and is currently recycled on the ISCC BoD. She is active in AATCC, and is a former chair of the Color Measurement Test Methods committee and former chair of the C2C Interest Group. She is a frequent lecturer at industrial short courses at AATCC, Clemson, Cotton Inc, and NCSU. She is interested in color communication, color difference metrics, sample measurement issues, and how to squeeze maximum benefit out of these solutions for retailers and their supply chains.

She received her BS in Textile Science from UC Davis in 1982, and MS in Color Science from Clemson She worked for Burlington Industries in R&D until 1987. She then joined a new company, SheLyn, providing software solutions for color management needs in textile and related industries. SheLyn was purchased by GretagMacbeth, and subsequently by X-Rite Inc in 2006. She soldiers on at X-Rite, bringing the message of color measurement and color management to retailers and industries worldwide.

Office of Director (2010-2013)

There are three candidates for Directors from 2010 to 2013. They are John Conant, Nancy Kwallek and Art Springsteen

John Conant (Aerodyne)

John Conant graduated from Colby College in 1971 and then obtained an M.S. in Physics from Carnegie-Mellon University in 1977. He then joined Aerodyne Research, Inc., where he is now a Principal Scientist in the Center for Optical Signature Recognition. He develops and utilizes computer models to better understand physical problems in optical radiation transfer in the IR, visible, and UV regions, with a focus on surface reflection and atmospheric effects.

He has studied the prediction and detection of target and background radiation signatures for both military and civilian applications. His work includes extensive data analysis and modeling of a large variety of objects including aircraft, missiles, ships, ground vehicles, and personnel, as well as the terrain and atmosphere. Mr. Conant directed the Aerodyne development of SPIRITS, a detailed, highly-validated first-principles target hyperspectral imaging model which is a U.S. Government standard for fixed-wing aircraft.

Over the past decade John has contributed to COSR's studies in quantitative color, applying his spectral modeling capabilities to problems such as the selection of color to increase or decrease detectability. John is a past Assistant Editor for Optical Engineering.

Nancy Kwallek (UT Austin)

Dr. Nancy Kwallek earned her Ph.D. at Purdue University in Environmental Design and Housing in 1978. She is Director of the Interior Design Program in the School of Architecture at The University of Texas at Austin. Dr. Kwallek holds the Gene Edward

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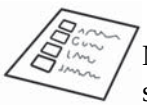

ISCC Ballot, *Continued from page 9*

Mikeska Endowed Chair for Interior Design and is a registered Interior Designer in the state of Texas.

Over several decades, her research has examined human response to the interior color of office environments where focus is placed on worker mood, productivity, health, well-being, performance, and satisfaction of workers. Several phases of research have involved subjects working on office tasks in confined spaces in a variety of office color palettes. Recognized as an international expert on the effects of interior color on humans, Dr. Kwallek has presented juried, invited, and plenary papers on her research to international scholarly, design, and professional groups on five continents.

Currently she is developing an extensive project to test the effects and interrelationships between interior paints, indoor air quality (IAQ), and off-gassing of various materials including reprocessed and recycled materials compared with nontoxic natural 'green' materials. Her studies will test the effects of off-gassing and IAQ on office workers within a confined interior work space.

In addition to teaching courses on the history of interiors, designers, and products, she also focuses on teaching an interdisciplinary color course open to all entering freshman at the University of Texas, designated as a university Signature Course: LIVING COLOR—Art, Culture, Architecture, Light, Science.

Art Springsteen (Avian Technologies)

Art Springsteen has a Ph.D. in Organic Chemistry from West Virginia University (1977), after an undergraduate degree from St. Francis University (PA) and a Masters in Chemistry from Marshall University. He did his post-doctoral work in medicinal chemistry at the National Foundation for Cancer Research.

After starting his career in academia, He became Director of Research, then Director of Advanced Development at Labsphere Inc., positions he held from 1986 to 1999. In August of 1999, he left Labsphere, where he was responsible for development of all of the company's coatings and materials (Spectralon, InfraGold, Spectraflect, etc)., along with development of instrumentation for measurement of fluorescence and reflectance, to start his own company, Avian Technologies LLC.

During his time at Labsphere and in the subsequent years, he has been awarded 9 patents, on topics ranging from color standards to laser cavities to on-line measurements of sugar and other raw materials.

He is an author of one book (*A Practitioner's Guide to Spectroscopy*, with Jerry Workman), the ISCC "Guide to Material Standards and their Use in Color Measurement", and a large number of articles dealing with spectroscopic measurement techniques.

His current company, Avian Technologies LLC, where he is President and CTO, is strongly involved in the color industry, both in imaging as well as standards for color and color measurement. Avian Technologies partners with CERAM Research, Mount Baker Research, among others, to develop new materials for metrological use.

Dr. Springsteen served on the Board of Directors of Council for Optical Radiation Measurement (CORM) for 20 years, including 12 years as secretary. He is currently the secretary for the Council for Near-Infrared Spectroscopy (CNIRS) and is a former BOD member of the ISCC. He is actively involved in CNIRS, SAS, the Coblentz Society, and SABR. He has been organizer of a number of conferences, the most recent being the joint ISCC/CORM "Conference on Lighting in Artistic, Commercial, and Retail Spaces" at NIST in March of 2010.

Publications Available from ISCC Office

ISCC 76th Annual Meeting Program and Abstracts, ISBN 978-1-4243-4273-0 $25.00*

Color and Light by Fred W. Billmeyer Jr. & Harry K. Hammond., III. Authorized reprint from: ASTM Manual 17, Copyright 1996, ASTM International, 100 Bar Harbor Dr., W. Conshohocken, PA 19428.

$5 ea or 20 copies/$50.00

Demystifying Color by Bob Chung, 11 pages. $5 ea or 20 copies/$50.00

ISCC 75th Anniversary Commemorative CD and Pin $30*

Guide to Material Standards and Their Use in Color Measurement (ISCC TR-2003-1) $50*

*Plus shipping and handling

CALENDAR

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

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11491 Sunset Hills Road, Reston, VA 20190
703-318-0263 tel 703-318-0514 fax

isccoffice@cs.com **website:** www.iscc.org

2010

Sep 13-16	**2010 CAD RETEC,** Society of Plastic Engineers, Color and Appearance Division, Nashville, Tennessee, www.specad.org/index.php?navid=127
Sep 19-23	**NIP26, International Conference on Digital Printing Technologies,** Austin, Texas, Society for Imaging Science and Technology Society for Imaging Science and Technology, www.imaging.org/IST/conferences/nip/
Sep 24-25	**Bridging the Gap, Pioneering the Future,** The Society for Color and Appearance in Dentistry (SCAD), Newport Beach, California, www.scadent.org
Oct 7-8	**Annual Meeting of the ISCC,** College of Textile, North Carolina State University, isccoffice@cs.com
Oct 19-21	**2010 NPIRI Conference**, National Association of Printing Ink Manufacturers, Sanibel Harbour Resort, Ft. Myers, Florida, http://74.0.252.227/publicarea/techconf2010/techconf10CFP.aspx
Nov 7-9	**IES Annual Conference,** Illuminating Engineering Society, Fairmont Royal York Hotel, Toronto, Canada, www.iesna.org/ac/index.cfm
Nov 8	**ICC-DevCon 2010**, Sheraton Gunter Hotel, 205 E. Houston Street, San Antonio, Texas, www.color.org/DevCon/devcon10.xalter
Nov 8-12	**CIC18, 18th Color Imaging Conference**, Society for Imaging Science and Technology, San Antonio, TX, 703/642-9090, www.imaging.org/ist/Conferences/cic/index.cfm

2011

Feb 2-3	**ASTM E12, Color and Appearance,** Baltimore Marriott Waterfront, Baltimore, MD www.astm.org/COMMIT/COMMITTEE/E12.htm
Mar 22-24	**2011 AATCC International Conference,** American Association of Textile Chemists and Colorists, Charleston, S.C., www.aatcc.org/ic/2011/index.cfm
May 16-19	**Archiving 2011,** Society for Imaging Science and Technology, Salt Lake City, Utah, www.imaging.org/IST/conferences/archiving/
May 15-20	**50th International Symposium, Seminar, and Exhibition,** Society for Information Display, Los Angeles Convention Center, Los Angeles, CA, www.sid.org/conf/sid2011/sid2011.html
Jun 7-10	**2011 AIC Midterm Meeting, Interaction of Color and Light**, Zurich, Switzerland, Organizer: Pro/colore, www.aic2011.org

ISCC Sustaining Members

Avian Technologies	www.aviantechnologies.com	**603-526-2420**
BYK-Gardner USA	www.byk.com/instruments	**301-483-6500**
Color Communications, Inc.	www.ccicolor.com	**773-638-1400**
Datacolor	www.datacolor.com	**609-895-7432**
Hallmark	www.hallmark.com	**816-274-5111**
Hewlett-Packard Company	www.hp.com	**650-857-6713**
Hunter Associates Laboratory, Inc.	www.hunterlab.com	**703-471-6870**
IsoColor Inc.	www.isocolor.com	**201-935-4494**
Xerox Corporation	www.xerox.com	**585-422-1282**
X-Rite Incorporated	www.xrite.com	**616-803-2113**

ISCC Member Bodies

American Association of Textile Chemists and Colorists (AATCC)
American Society for Testing and Materials International (ASTM)
American Society for Photogrammetry & Remote Sensing (ASPRS)
The Color Association of the United States, Inc. (CAUS)
Color Marketing Group (CMG)
Color Pigments Manufacturing Association (CPMA)
Council on Optical Radiation Measurements (CORM)
Detroit Colour Council (DCC)
Gemological Institute of America (GIA)
Graphic Arts Technical Foundation (GATF)
Illumination Engineering Society of N. America (IESNA)
International Color Consortium (ICC)
National Association of Printing Ink Manufacturers (NAPIM)
Optical Society of America (OSA)
The Society for Color and Appearance in Dentistry (SCAD)
Society for Information Display (SID)
Society of Plastics Engineers, Color & Appearance Div. (SPE)
Society for Imaging Science and Technology (IS&T)

Advertising Policy

The ISCC advertising policy for the ISCC News requires pre-paid color-related advertising 30 days in advance of the publishing date. The rates are:

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

The editor reserves the right to determine the acceptability of the advertising. A 20% discount is available for a yearly contract.

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All submissions must be in English. Please submit materials by the 15th of each even numbered month.

INTER-SOCIETY COLOR COUNCIL

2010 ISCC BALLOT

Election of Board of Directors
2010-2013 Term

Please vote for three candidates.

John Conant ( )

Nancy Kwallek ( )

Art Springsteen ( )

Election of ISCC President

Scot Fernandez ( )

Election of ISCC Secretary

Ann Laidlaw ( )

Election of ISCC Treasurer

Cameron Miller ( )

Return of Ballot: Ballots are due at the Inter-Society Color Council Office by October 1, 2010.

Please respond by fax: 703-318-0514, email: isccoffice@cs.com or by U.S. Mail to Inter-Society Color Council, 11491 Sunset Hills Road, Reston, VA 20190.

Please remember to sign your ballot. Thank you.