

Inter-Society Color Council News

WILLIAMSBURG CONFERENCE

Don't miss the Williamsburg Conference, February 6-9, 1983, on "Color and Illumination — Man Lights and So Colors His Environment." It is jointly sponsored by the ISCC and the Illuminating Engineering Society of North America. For further information, see No. 280 of the News.

AATCC-ISCC SYMPOSIUM

The American Association of Textile Chemists and Colorists and the Inter-Society Color Council are co-sponsoring a symposium entitled "Practical Application of Color Control" to be held March 8-9, 1983 at the Holiday Inn Four Seasons in Greensboro, N.C.

The theme of the symposium will be the use of color science and instrumentation in the control of color quality in the textile and apparel industries. The program will cover the latest in technology and in approaches to monitoring and controlling the quality of colored textile and apparel products. Speakers will be from the textile, apparel, dye and retail industries.

The program will be divided into four sessions. Session I, moderated by Robert F. Hoban, Sandoz Colors and Chemicals, Charlotte, NC., will include: "Perceptual Aspects and Historical Development of Color Difference Formulation," by Rolf G. Kuehni, Mobay Chemical Corporation, Charlotte, NC.; "CIE Colorimetry System and CIELAB Formula" by Nancy Jo Howard, Philadelphia College of Textiles and Science, Philadelphia, Pa.; and "Modification of CIELAB for Industrial Applications" by Keith McClaren, Instrumental Colour Systems, Ltd., Berkshire, England.

Session II, moderated by Therese R. Commerford, U.S. Army Natick R & D Laboratories, Natick, Mass., includes "Instrumental Requirements for Color Control" by Robert F. Willis, Burlington Industries, Greensboro, N.C.; "Instrumentation for Color Control" by Harry K. Hammond, III, Gardner Laboratories, Silver Spring, Maryland; "Color Control and the Manufacturing of Dyes" by Robert F. Hoban, Sandoz Colors and Chemicals, Charlotte, N.C.; and "Color Control of Dyes — Another Point of View" by Charles F. Sturm, Ciba-Geigy, Toms River, N.J.

Session III, moderated by Roland L. Connelly, Sr., Burlington Industries, Greensboro, N.C., includes "Principles of Color Sorting" by Frederick T. Simon, Clemson University, Clemson, S.C.; "In-Process Color Monitoring and Control" by James O. Blackstone, WestPoint Pepperell, Shawmut, Ala.; "Color Sorting at Burlington Industries by William L. Acree, Burlington Industries, Greensboro, N.C., "Color Sorting at WestPoint Pepperell" by John C. Farmer, WestPoint Pepperell, Shawmut, Ala.; and "Color Sorting at Dan River Inc.," by J. William Hewitt, Dan River Inc., Danville, Va.

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Session IV, moderated by Wayne H. Lawson, Fieldcrest Mills, Inc., Eden, N.C., will include "Color Control of Military Fabrics" by Therese R. Commerford, U.S. Army Natick R & D Laboratories, Natick, Mass. Other presentations will cover "Color Control for the Outerwear Apparel Manufacturer," "Color Control for the Sportswear Apparel Manufacturer" and "Color Control for the Textile Retailer."

A registration fee of \$220 (\$180 to individual and corporate members) includes lunch both days. A block of rooms has been reserved at the Holiday Inn Four Seasons, 3121 High Point Road at I-40, Greensboro, N.C. 27407, telephone 919/292-9161. Reservations should be made direct with the Holiday Inn Four Seasons and attendance at the AATCC Symposium should be specified to obtain the special group rate.

To register for the program or to obtain additional information, please contact Joan Mitchell at AATCC P.O. Box 12215, Research Triangle Park, N.C. 27709, telephone 919/549-8141.

DETROIT COLOUR COUNCIL

The Detroit Colour Council completed a highly successful 1982 program year with a presentation on coloring of synthetic fibers by David Bash of Ampacet Corp. A March 1, 1983 dinner meeting is planned featuring Henning Bunge of Mobay Chemical, speaking on comparisons between chromate-based and non-chromate pigment formulations.

Officers for 1983 are William Longley, Ford Motor Company, President; Charles Harvey, Boehle Chemicals, Vice-President; Jack Westerbeeck, Matteson-Ridolfi, Secretary; Richard Hamilton, BASF-Wyandotte, Treasurer. Directors are David Anderson, Ford Motor Company, James Grady, E.I. duPont; Carol Jacques, Inmont; and Matthew Plaza, Glasurit America.

Bill Longley

NEWS OF MEMBERS

Eugene M. Allen Honored

The Amin J. Bruning Award was presented to Dr. Eugene M. Allen, Emeritus Professor of Chemistry at Lehigh University, Bethlehem, Pennsylvania, by the Federation of Societies for Coatings Technology. The award recognized Dr. Allen's outstanding contributions to the science of color in the field of coatings technology.

Dr. Allen is a published authority in the fields of color science, radiant energy, and laser microprobe spectroscopy. His research activities have been responsible for many of the current mathematical techniques being used for computer colorant formulation.

RIT Endowment Establishes Richard S. Hunter Professorship

A gift has established the Richard S. Hunter Professorship of Color Science, Appearance and Technology at RIT. The endowment by Mr. and Mrs. Hunter of Reston, Virginia, honors Richard S. Hunter, founder of Hunter Associates Laboratory and chairman of its board.

The Richard S. Hunter Professorship at RIT will enable the Institute to increase its research and educational efforts in the area of color science and technology, as well as in appearance science, in order to benefit the industry and science of color.

The Richard S. Hunter Professor will operate under the School of Photographic Arts and Sciences, a division of RIT's College of Graphic Arts and Photography. The work carried on by the Richard S. Hunter Professor will enhance the study of printing, graphic arts, graphic design, computer graphics, food technology, industrial and interior design, packaging design, textiles, ceramics, paints and plastics.

The Richard S. Hunter Professor will direct a color laboratory, which will be used to further applied research in color science and appearance technology and to address the problems of measurement and standardization.

Richard Hunter is a long-time member of the ISCC and was recently awarded honorary membership. He served as President in 1972-73 and received the society's Macbeth Award in 1976.

Hunter believes that the ability to measure physical sources of the attributes of appearance is both an analytical and a quality control tool. "There is no such thing as an exact model for the optical analysis of appearance. There are different methods for different fields," Hunter has said. More broadly, he'd like to see RIT focus on the psychophysical analysis of sensory processes as they relate to various technologies.

FOOD COLORS

The September-October 1982 (No. 280) issue of the News included the reprint of an article on food colors. The following letter was received by the Editor.

The article on food colors in ISCC News was intriguing and I would like to reply to your suggestion. I am a Past President of the Institute of Food Technologists and I wrote the July, 1980 IFT report on food colorants. The 1979 study on sweetness and tartness vs color obviously refers to the research of my colleague, Fergus Clydesdale.

The experiment on acceptability of foods with unexpected colors has been repeated literally hundreds of times with predictable results. People just will not eat foods which do not have the expected appearance. They may try it, out of curiosity, but they will not eat it on a continuing basis. The newspaper article treated the whole subject in a humorous manner and this is fine. A society that can laugh at itself is probably a healthy society.

But there is a very serious side to this concept. Some activist groups have attempted to have all food colorants banned because they are only cosmetic and even may have some perceived problems of safety. Unfortunately, nature provides some foods with attractive coloration which is not related to nutri-

tive value. We are going to have to make our food delivery systems as efficient as possible as nutrient delivery systems. To do this, we have to make food attractive in appearance in order to have it consumed. The obvious advantage in acceptability for foods naturally colored is incompatible with an efficient nutrient system. We need food colorants.

There is a world wide movement towards use of "natural colorants," which is particularly strong in the EEC, Russia and Japan. In my opinion, this is due to perceived fears of safety in synthetic food colorants. I believe that these perceived fears are unjustified but they are non-the-less real. I think that this is a temporary situation and will stabilize as our knowledge of the methods for determining food safety improve. In the meantime, I hope all ISCC members will oppose bans on food colorants, provided the appropriate data on safety aspects justifies their continuation.

F. J. Francis
Professor
University of Massachusetts

COMMENTS RE: HUMAN RESPONSE TO COLOR

Recently two notes have been published in Inter-Society Color Council News relating information about how humans respond to color (May-June 1982 & September-October 1982). The notes tell the reader about articles that were published in a journal called The International Journal for Biosocial Research. For the sake of accuracy and appropriate scientific interpretation I would like to offer the following comments.

In the first note the work of two Canadian investigators (Wohlfarth and Sam, 1982) is described where severely handicapped children were placed in a room painted in one of two different color schemes. The first reactions to color that are quoted from the journal article and reported in the note are not the results of that research, but rather the results that the first author obtained in 1955-58. A further quote from the Wohlfarth and Sam paper goes on to say, "Of the physiological measures, the diastolic blood pressure was taken as the best indicator of stress or relaxation. The subjects had their lowest and most stable readings during Phase II, the color/lights test phase of the study." (p. 34) If one reads the original paper, they will learn that the major drop in blood pressure that was reported for Phase II, actually occurred in Phase I. Another interesting feature of the data occurs in Phase III where the room was repainted to be identical to that of Phase I. For six of the seven handicapped children, the peak blood pressure in Phase III was lower than the minimum pressure of Phase I (the colors of phase I and III were identical) and slightly higher than in Phase II. The seventh child's average pressure in Phase III was lower than the minimum pressure in Phase I. Interestingly, four of the seven children's blood pressure started to rise while still in Phase II, and one child's pressure continued to fall briefly upon entering Phase III. Although Gerard has shown a relationship between color and systolic blood pressure, there can be little doubt that the results of Wohlfarth and Sam's study are probably an artifact related to the children's anxiety to having their blood pressure taken.

In the second note, an article in this same journal authored

by McDonald is described. The note relates how blue light relieved arthritic pain. Since I have not read the original article, I must quote from the note published in the Inter-Society Color Council News.

"The predominant presence of shorter, more frequent blue lightwaves is more likely to be related to a reduction in the experience of pain than is the predominant presence of longer, less frequent (red) lightwaves, or the control condition."

The control condition was, according to the note, uncolored light coming from a 40 watt incandescent bulb. The colors were produced by transparent, plastic, red and blue color filters.

Since the colors were produced by filtering the uncolored light from the 40 watt bulb, any blue wavelengths that were present when the blue filter was used were also present when the control, uncolored light, condition was used. Any wavelengths that were present when the red filter was used were also present when the control condition was used. Filters merely subtract or filter out light that is in the source to begin with. They can not create wavelengths that did not already exist. Now consider the following quote that appeared in the note. "The longer the duration of exposure to the blue lightwaves, the more likely there will be a reduction in the experience of pain."

Since the same blue lightwaves were present during the blue condition as in the control, uncolored, condition and if the presence of blue lightwaves is the critical variable, then the same relief of pain should have been experienced with the uncolored light as with the blue light. If the research was competently done, and visible radiation, indeed, can affect the pain from arthritis then it must be the presence of longwave radiation that prevents the pain reduction. The only difference between the blue light and the uncolored light is the presence of longer wavelengths. But if it is the presence of long wavelength radiation, then two possibilities exist. 1. The presence of long-wave radiation causes arthritic pain. This can be tested by placing the subjects in darkness. 2. Visible radiation can reduce arthritic pain, but only if longwave radiation is not also present. If the latter, then clearly, it is not the presence of blue light that is necessarily the critical variable, but the absence of longer wave radiation. If the latter, at what wavelength does the inhibition or interference in pain reduction begin? For example would green light be equally as effective as blue? Would violet light (a mixture of blue and red) be less effective in reducing arthritic pain than blue light alone? Would visible light at wavelengths shorter than 450 n.m. (which looks like a mixture of blue and red) be less effective than light which is unique blue?

Mr. Faber Birren recently wrote in this Newsletter that there are "some who credulously have great confidence and faith in color reactions, and those who simply don't want color to have any reaction at all." To this dual classification I would add a third. There are those who would like to believe, but only in the face of competently conducted, scientifically, verifiable, research.

References

Birren, F. Human Response to Color? Inter-Society Color

Council News, Number 278, May-June, 1982, p. 3.

Birren, F. Blue Light To Relieve The Pain Of Arthritis. Inter-Society Color Council News, Number 280, September-October, 1982, p. 5.

Gerard, R.M. Differential Effects of Colored Light. Unpublished Ph.D. Dissertation, U.C.L.A. 1958.

Wohlfarth, H. & Sam, C. The Effects of Color Psychodynamic Environment Modification Upon Psychophysiological and Behavioral Reactions of Severely Handicapped Children. The International Journal for Biosocial Research, 3, 10-38, 1982.

Peter K. Kaiser

Center for Human Information Processing
University of California, San Diego

APPLICATIONS FOR INDIVIDUAL MEMBERSHIP

Approved at Board of Directors Meeting, October 23, 1982

Mr. Stefan G. Arteni
34-41, 77th Street
#127
Jackson Heights,
New York 11372

Color in architecture, art conservation (color matching), the fine arts (theory of color and artists' materials).

Dr. Richard D. Bauer
DuPont Photoproducts
W. James Street
Towanda, PA 18848

DuPont photoproducts makes several pre-press color proofing films. Consequently we are interested in the formation of color images by the Hauftone process and the measurement of white backgrounds.

Mrs. Luiza M. H.
de Barcellos
Rua Borges Do Canto, 41
Porto Alegre - R. S.
Brazil 90000

Professional activity as interior designer and color consultant; courses of interior decoration and interior design; course of color consultancy.

Ms. Christina M. Burton
102 Suburban
Apartments
DeKalb, Illinois 60115

Presently I am a graduate student working on my MFA in interior design at Northern Illinois University, DeKalb, IL and my thesis deals with the human response to color in health care facilities. My background includes: A BSN and 7 years nursing experience in various health care settings and teaching 2-D and 3-D basic design.

Jeanette M. Carter
2173 Dudley Avenue
St. Paul, Minnesota
55108

Navajo tapestry restoration—dyeing wool fiber for replacement yarns—dye chemistry (M.S. Purdue U.) (Chemistry) - 1965 - Color and Design in Textiles - Course Development (Community Organizations) - The Dyeing Medium and Color - graduate level - Course Development (U. Minnesota).

- Miss Laurie Ann Hauch
1693 Alice Ct.
Annapolis, Maryland
21401
- Working on a Master's degree dealing with the colorimetric determination of dye contents. I am currently in the textile chemistry graduate program at the University of Maryland.
- Mrs. Deborah Jackson/
Heidenheim
3485 Chambers
Eugene, Oregon 97405
- B.S. in Home Economics with a minor in studio art; hobby is working with clay and glazes. Being an interior designer I work with color on a daily basis.
- Fran Heisey
Department of Textiles
and Clothing
McNeal Hall
University of Minnesota
St. Paul, Minnesota 55108
- Student.
- Mr. David E. Jacobs
Lord Corporation
Chemical Products Group
P. O. Box 556
Saegertown, PA 16433
- I have worked with urethane coatings for the past eight years.
- Mr. Sidney L. Jay, Jr.
Graniteville Co.
Gregg Color Laboratory
Graniteville, SC 29829
- Presently — Colorist and Laboratory Manager, Graniteville Co. Past — Dyeing Chemist and Systems Manager, Color Control, Mohasco Corporation. Past — Director of Walker Laboratories, Inc., Analytical Services.
- E. Kelly Johnson
130 Amherst
Number 2
St. Paul, Minnesota
55105
- Through University of Minnesota is studying applied design and commercial art. Several of my classes deal with color and color problems. Also, just finished a class on color theory with Nancy Shoemaker
- which prompted my desire to join ISCC.
- Ms. Dorothy Kamm
4850 S. Lake Park
Avenue
Apt. 2212
Chicago, Illinois 60615
- Finding easy and inexpensive ways to change color in a room so the room doesn't remain static; for example, the use of colored gels with lighting to wash the room with atmospheric color rather than flat pigment.
- Myron C. Rapkin
156 Briggs Street
Beaumont, Texas 77707
- Development of color charts (printed) to match chemically reactive papers such as dip and read tests for pH in water or glucose in blood.
- Mrs. Anabela Schalch
Leal
Alameda Sarutaia 103,
Apt. 72
Sao Paulo, Brazil 01403
- A one-year course (color consulting) in Porto Alegre, State Rio Grande do Sul, given by Prof. Simao Goldman, involving chiefly theory of color, color in hospitals, schools, homes, packing, industry. Paper on
- "Color in Pediatrics" presented in a National Seminar on "Colors in Hospitals," held in Porto Alegre.
- Mr. Louis C.
Schermerhorn
5663 Katherine Street
Simi Valley, California
93063
- Spectral and photometric analysis of self luminous displays. Design of aerospace crew station lighting.
- Miss Katia Ima Kayser
Al. Sarutaia 103, Apt. 72
Sao Paulo, Brazil 01403
- A one-year course (color consulting) in Porto Alegre, State Rio Grande do Sul, given by Prof. Simao Goldman, involving chiefly theory of color, in hospitals, schools, homes, packing industry. Paper on "Colors in Pediatrics," presented in a national seminar on "Colors in Hospitals," held in Porto Alegre. Research paper on color symbology in the Brazilian Folklore.
- Mr. Sydney Sykes
Director, Merchandizing
Design
CV Home Furnishings Ltd.
Lees Street
Swinton, Manchester
England M27-2DD
- Merchandizing Design, Director of Home Furnishings.

PROBLEMS COMMITTEES

I am pleased to announce changes in the Problems Committees approved by the Board of Directors.

1. Zora Pinney becomes Cochairperson with Mark Gottsegen for #37 Artists' Materials.
2. Professor Mary Buckley and Walter Granville will be co-chairpersons for #33 Human Response to Color.
3. Paula J. Alessi assumes the Chairmanship of #32 Image Technology.

Two New Problem Committees Have Been Approved

Theresa F. Zook will be the Chairwoman for #39 Color in Gems. Professor Nancy Jo Howard, Dr. Stephen Bergen and Mrs. Evelyn Stephens will be chairpersons for #40 Color Education Resources and Materials.

Coordinators for the Problems Committees are as follows:

- | | |
|-----------|---------------------|
| Group I | Robert F. Hoban |
| Group II | Allen B. Rodrigues |
| Group III | Joy Turner Luke |
| Group IV | William A. Thornton |
- Joyce S. Davenport

NEWS OF MEMBER-BODIES

Color Association of the United States

On October 1, 1982, CAUS Directors appointed Adrian Butash, Executive Director of The Color Association of the United States and chose Jean Koefoed to plan and organize the CAUS publishing program. Mr. Butash is head of the marketing organization, Adrian, Inc., and has held executive posts with both Hoechst and Celanese companies. Mr. Koefoed's im-

pressive list of books on the subject of color which he has edited and published includes seven by Faber Birren and volumes on Johannes Itten, Ostwald, Munsell, and Chevreul along with Jack Larsen's opus on IKATS.

Morgan Walch
Director

Color Marketing Group

The Color Marketing Group celebrated its 20th anniversary in 1982. The Group was formed by representatives of 26 companies in twelve major industries. The Group's objective is to achieve progress in areas of aid to those who daily find color more important in merchandising and marketing. Congratulations to a member-body for a fruitful effort in the field of color.

OSA

The Optical Society of America has an extensive publication list of interest to many ISCC members. The following poem was contained in a recent brochure and is reprinted here for your edification.

The OSA publishes journals by the score
Whose titles can be found in the publication brochure:
This brochure gives to all a wonderful chance
To see what great men do by taking a glance
At the story below that's about to unfold
Where the contributions of these men are now to be told.

Mother Waga gathered her crew 'round
Promising tales of rainbows if all would sit down.
Not too long ago she ruled, with iron hand
That gifted group known as the OSA clan.
The story proved to be exciting and fun
And told also of hard work well done.
Joining Minnaert and Greenler and David Lynch
See rays, light and an occasional finch
Where glories shine and rainbows dance
While waves probe and gases prance.
The men who brought it all to you
Were often those who stay out of view.
But they are people of whose genius must be told
Whether they be man, woman, young, or old!

A Strong balloon takes off for the skies
As Freeman's finger tells which way the wind lies —
That wind taking us to Stephen Benton's whimsical
rainbow
Where the pot of gold was a prize for Bloembergen and
Schawlaw.

Townes, Prokovov, and Basov found a prize through lasers,
But Marjorie Meinel didn't let it phase her:
She and Aden decided to bring the sun to you
And Land's polaroid camera brought it all into view.

Emil and Max wrote down the principles of optics,
Giving way to various topics
So Goodman could excel in Fourier optics
And Dr. Garmire could dabble in integrated optics.

The future was open for these brilliant giants
Who worked and studied in physics and science.
We see their work in all that we do
From laser-scanned groceries to the shades in a hue.

Arriving from India was C. Kumar Patel
Who took his CO₂ laser and went to work at Bell.
And working hard all this while,
On vision effects, were Crawford and Steils.

Judd and MacAdam explored the changing color field
Then took on JOSA to print what such studies would yield.
They labored hard as only good editors can
Then turned JOSA over to Sinclair, then Goodman.

Tien and Harris found a tiny little chip
To stoke your fiber and interface with electronics —
The race was on to be the very best
To discover new fields before all the rest.

Turner made light interfere constructively
Using multilayer coatings that also work destructively.
Kogelnik, Fox, and Li found in their laser resonator phase
That a mirror at the end of a gas makes it lase.

Optical fiber communications was founded by Kao and
Maurer —
Did they ever suspect it would give man the power
To take a fiber and use it to talk and to see
Or even to hear a sub deep down in the sea?

Along the way a quartet of men
Discovered the way to perfect the lens:
Fraunhofer and Conrady, O! such a lens they did make
They were followed in time by Smith and Kingslake.

Of the story of optics there is much more to be said
About this breed of man, both alive and dead,
Who developed prisms, gases, and x-ray
And all types of things we use every day.

Make a prism from glass or plastic, Cooke declared
And as he worked on these he never despaired
Of finding the right formula to make it all work out
Frank certainly knew what it was all about.

Terms in physics are polysyllabic:
Holography, spectroscopy, electro-optic.
The depth of these words is reflected, of course,
In the brains of men who go right to the source.

To discover the importance of nonretro-refraction
And the theories behind boundary diffraction.
Charlie's worked hard with lasers and gases
Bob Shannon's work with lenses has aided the masses.

And many of the lasers of which we speak
Were created by Maiman at his peak.

Harris led the way for ultraviolet laser techniques
And Hartline worked on retinas, strong and weak.

Boris took on, in Raman spectroscopy, the study of high
resolution

As Dorothea and Leo began to decipher the complex field of
vision –

Such studies proved difficult and were quite a chore
But were no harder than the work of Rawson and Moore,
Who set out to find optical imaging's gradient index
As Tony measured the pulses in tiny picoseconds.
Ippen and Shank laid bare a picosecond phenomenon
As optics stayed electronically tiny through the good work of
Don.

Nestled in Michigan's lab away up North
Emmett Leith was busy bringing forth
A 3-D picture seen with coherent light
Making sure holography develops just right.

Bob Madden's synchrotron radiation penetrates deep
Sending out particles that move at top speed;
And last but not least is the man they call Mac
Who has persevered hard to establish the fact

That one can use all by itself the time standard
To arrive at that thing they call the distance standard.

The names we have mentioned are keepers of the flame
Who explore and study but do it not for the fame
Of having their names heralded in words or in books
And never give a thought to fans and adoring looks,
But who do what they do for the fate of each man
And give of themselves just as much as they can.

The story is told, the deeds they are done
That lead us beyond the moon and the sun
To prisms and rainbows and colors and hues:
We hope that this poem brings it all into view.

Elizabeth Bower
Courtesy of the Optical Society of America

AIC

Hungarian National Committee

In years past, the Hungarian Colour Committee has functioned as the Hungarian National Committee of AIC in cooperation with all those social, planning and production organizations whose activities are related to the world of colours. In 1981/82 it appeared that this situation should change: the activities concerning the theory of colours and the practice of colour environment should have a higher level of social and professional appreciation.

These changes required both organizational and management modifications. The Section of Technical Sciences of the Hungarian Academy of Science undertook the maintenance of the AIC Hungarian National Committee. Formally this Committee will function as the Colour Theory Subcommittee of the Building Science Committee of the Academy.

The Committee was reorganized on 8th of June with 17 members. All the social, administrative and economical organs whose interests are concerned participate in the Committee.

The president of the Committee remains Dr. Antal Nemcsics, assistant professor of Technical University of Budapest/Budapest, XI., Műgyetem rkp. 3., 1111/, and the secretary is Gábor Barna, the general secretary of the Hungarian Society for Urbanism/Budapest, VIII., Rákóczi ut 7., 1088/.

Besides the National Committee, consultative and expert bodies were set up. The consultative body has 27 members, the expert body has 30 members.

Colour Dynamics '82

The 1982 Midterm Conference was held between 8-10 of June in Budapest, with the theme of planning the colour environment.

The following topics were addressed:

- the planning of colour environment in the man's environment forming activity
- research tasks in the colour dynamics science, knowledge and methods of planning colour environment
- practical experiences concerning realized colour dynamics plane
- international situation of standards, planning work-helps and technical directives of the colour dynamics
- the situation and possibilities of colour dynamics specialist education

The Conference was organized by the AIC Hungarian National Committee in cooperation with other organs, and the Conference was opened by Mr. A.G.W. Hunt, President of AIC. From 25 countries 260 experts took part and 85 lectures were delivered. The lectures were completed by seminars and discussions. The lectures were published by the Organizing Committee of the Conference. This 600 page volume will be sent to the participants early in November. During the Conference the AIC Environment Planning Work-Committee was set up. The Conference was accompanied by five exhibitions. The exhibitions showed interlink of the colour, the people and environment, colour dynamics plans and realizations from various countries. These exhibitions were seen by 20,000 visitors.

At the time of the Conference the Hungarian Standard Office published the Technical Directive on the COLOROID colour system, which is suited for the planning of colour environment and for describing colour harmony interrelationships. Also, the theoretical and practical questions of planning colour environment were arranged.

/Gábor Barna/
Secretary of the AIC
Hungarian National Committee

Colour Group of India

The Colour Group of India jointly sponsored a symposium on "Colour Technology for Textiles" with S. V. Regional College of Engineering and Technology, Textile Association of India (South Guj. Unit) and the Surat Colour Chemical Merchants Association, Surat. The symposium was held on December 14,

1982, and included a full program of talks. Color measurement, color instrumentation, color control systems, and dyeing were discussed in what appears to have been a rewarding day of sessions.

MEETINGS AND SERVICES

"Lasers in Graphics/Electronic Publishing in the 80's" Regional Seminars

These two-day seminars are scheduled for:

New York City	March 15-16	Halloran House
Chicago	March 18-19	Sheraton O'Hare
Los Angeles	March 22-23	Marriott-LAX

According to Dr. Tom Dunn, these regional sites have been selected to provide printing centers in North America with the convenient opportunity to receive the informational benefits of the Annual "Lasers in Graphics/Electronic Publishing in the 80's" Conference, held in the Fall of each year. Seminar sites have been selected for easy access (within these regions) and *full* attendance at the seminars can be achieved with the expense of only one night's stay at the seminar hotel.

According to Dr. Dunn, "These regional seminars are being provided to offer the educational materials presented at the Annual Conference to a broader audience." These regional seminars will condense the 4½ day Annual Conference into two days in an informal classroom-style environment, with appropriate updates on information presented at the Annual Conference. The Proceedings from the 4th Annual Conference will be used as course material, and will be updated by the seminar leaders. The smaller audience and informal atmosphere will encourage discussion among the speakers and the attendees.

'Visual Pigments'

The British Photobiology Society in collaboration with the American Association for Research in Vision and Ophthalmology are holding a 3-day meeting next year at Churchill Hall, University of Bristol. The meeting will celebrate the 70th birthday of Professor H.J.A. Dartnall and acknowledge his outstanding contribution to visual pigment research.

There will be seven symposia:

Rhodopsin structure; Rhodopsin photochemistry; Rhodopsin-activated enzymes; Wavelength regulation; Retinol transport and pigment regeneration; Visual pigments and the environment; Measurement of visual pigments *in situ* and a poster session on related topics.

For further information, contact Dr. Aubrey Knowles, Biochemistry Department, University of Bristol, Bristol BS8 1TD.

INDEX

In preparation for binding several sets of the ISCC News, the following summary of contents has been prepared for the issues dated 1976-1982 (Nos. 240-281). Note that a summary for the year 1977 appears in No. 251 and is included in this issue for completeness. The last previous index may be found in No. 239, November-December 1975.

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TAPPI Annual Meeting and Industry Exhibit, Georgia World Congress Center, Atlanta, GA

The future of the pulp and paper industry in a difficult economic climate will be one of the topics of discussion when industry professionals from around the world gather March 2-4, 1983, at the Georgia World Congress Center in Atlanta for the Annual Meeting of TAPPI, the Technical Association of the Pulp and Paper Industry.

This Annual Meeting is an umbrella under which fifteen technical sessions, five seminars, the 1983 TAPPI Environmental Conference, and the mid-year meeting of TAPPI's Corrugated Containers Division will be held. In addition, TAPPI 83, the Western Hemisphere's largest exhibition of pulping, papermaking, and converting products and services will run concurrently.

International in scope, the Annual Meeting program will feature speakers from Canada, the Federal Republic of Germany, Finland, Norway, and Sweden, as well as from the United States.

In a special opening session three industry leaders, J. M. Hahn, Jr., president of Georgia-Pacific, D. L. Luke, III, chairman of the Board and chief executive officer of Westvaco, and J. D. Fery, chairman of the Board and chief executive officer of Boise Cascade, will look at the future of the pulp and paper industry in a difficult economic climate. They will discuss expected trends in capital spending and the need for funds for future industry research and development. They will also compare current production capacity of the industry with future product demands.

Current problems such as acid rain and the need for innovative approaches to improve mill operations will be the focus of the fifteen technical sessions slated to follow the opening session. These sessions will center on millwide process control, forest engineering, new developments in pulping processes, environmental issues, and paper manufacture.

Scheduled to run concurrently with TAPPI's Annual Meeting are five special seminars, the 1983 TAPPI Environmental Conference, and the TAPPI Corrugated Containers Division's mid-year meeting. Seminar topics will range from an introduction to pulp and paper technology to on-line testing and process simulation. The Environmental Conference will share a joint session with TAPPI's Annual Meeting. This session will feature a panel discussion of environmental issues from a management perspective.

Finally, the Atlanta District of TAPPI's Southeast Local Section will also meet during the Association's Annual Meeting. This group will discuss "Computer Systems in Corrugating."

TAPPI 83, the Western Hemisphere's largest exhibit of pulping, papermaking, and converting products and services will run concurrently with the Annual Meeting throughout the

three days. Almost 270 companies from around the world will exhibit equipment based on the latest technological advances in the industry, occupying more than 90,000 ft² (ca. 8400 m²). Some 9000 are expected to attend TAPPI's Annual Meeting and Exhibit.

TAPPI is the world's largest professional association serving the pulp, paper, converting and allied industries. Based in Atlanta, GA, it has some 23,000 members in over 70 countries.

For more information, contact Wayne Gross at TAPPI headquarters, Technology Park/Atlanta, P. O. Box 105113, Atlanta, GA 30348, phone (404) 394-6130.

May 15-19, 1983, TAPPI Coating Conference San Francisco Hilton Hotel, San Francisco, CA

PRELIMINARY PROGRAM AND CALL FOR PAPERS

The 1983 TAPPI Coating Conference has been scheduled for May 15-19 at the San Francisco Hilton Hotel in San Francisco, CA. Although a preliminary program has already been developed, the Conference Committee will consider additional papers. Prospective speakers are urged to submit titles and abstracts of proposed papers without delay to Technical Program Chairman Sanford I. Shapiro, c/o AccuRay Corp., 650 Ackerman Road, Columbus, OH 43202, phone (614) 261-2000.

Some 25 papers have already been accepted for the technical sessions. The program will also again offer a series of workshops, which have become a popular feature of the Coating Conference. Eleven such workshops are now under development. The technical program will concentrate on new and improved coating technology and on developments expected in the '80s and '90s. A few examples of the topics to be covered are: computer applications, water resources, high solids coatings, size press coatings, printing, energy consumption, drying, pigments, testing, and base stock.

In making their travel plans, delegates are reminded to take advantage of special fares offered by various airlines for flights to the West Coast. Attendees arriving on Saturday, for example, might well be eligible for a Super Saver fare, which offers significant savings even after allowing for an extra day's room charge.

For other information on the 1983 TAPPI Coating Conference, contact Rhonda Miller at TAPPI headquarters, Technology Park/Atlanta, P. O. Box 105113, Atlanta, GA 30348, phone (404) 394-6130.

April 17-20, 1983, TAPPI Nonwovens Symposium, Myrtle Beach Hilton, Myrtle Beach, SC

The 1983 TAPPI Nonwovens Symposium has been scheduled for April 17-20 at the Myrtle Beach Hilton in Myrtle Beach, SC. The program will follow the theme "Technology 83." Technical Program Chairman Ric Herrera of Donaldson Co., Inc., says that the symposium will present the most comprehensive technical program to be offered to professionals in the industry in 1983. The Program Committee has organized 30 proposed papers into six technical sessions as follows:

1. **Activated carbon.** New information concerning state-of-the-art uses of carbon in nonwovens. The session developer is Ed Homonoff, Fram Corp.

2. **Fibers.** New developments in melt-brown microfibers, the properties and uses of carbon fiber in nonwoven papers and mats, coloring and stabilization of nonwoven polypropylene fibers, aramid fibers, dispersing glass fibers in the wet process, and dispersion mechanics of polyester fibers. The session developer is Kevin Porter, Crane and Co., Inc.

3. **Process technology.** Process instrumentation is applicable to the nonwovens industry, the use of trend recorders with distributed control systems, and process/quality control through charting. The session developer is Roger Ahrens, Sandy Hill Corp.

4. **Dry/Air laid fabrics.** Formation of dry-laid webs, needle punched fabrics in bag filtration, tensile and compressional properties of blended needle-punched nonwovens, dry-laid nonwovens, and water-process competition in nonwoven fabrics. The session developer is Don Whithead, Air Products and Chemicals, Inc.

5. **Binders.** Up-to-date information on formaldehyde emission, a presentation on "Zirconium Crosslinkers" and neoprene latexes for fiber binding. The session developer is Mike Madden, Donaldson Co., Inc.

6. **Testing.** The test methods of fiberglass mats; on-line test automation system and on-line measuring of the degree of cure of phenolic and urea formaldehyde resins. The session developer is Eric Hsu, Air Products and Chemicals, Inc.

Complete program details will be available in January. Pre-registration fees are \$240 for TAPPI members, \$360 for nonmembers. To request final program details when available, contact Rhonda Miller at TAPPI, Technology Park/Atlanta, P.O. Box 105113, Atlanta, GA 30348, or phone (404) 394-6130.

**Oct. 24-26, 1983 TAPPI Pulping Conference,
Shamrock Hilton Hotel, Houston, TX**

CALL FOR PAPERS

The 1983 TAPPI Pulping Conference will be held Oct. 24-26 at the Shamrock Hilton Hotel in Houston, TX. Conference Chairman Lee M. Bingham of Boise Cascade Canada urges prospective speakers to submit outlines of proposed papers before Feb. 1. Outlines should be sent to Technical Program Chairman Wayne F. Carr, Technical Manager — Fiber Systems, Maratone Engineering, Inc., P. O. Box 335, Menasha, WI 54952.

Technical sessions will cover recent developments in alkaline pulping, pulp bleaching, mechanical pulping, oxygen delignification, fiber raw materials, nonwood plant fiber pulping, secondary fiber pulping, and sulfite pulping. The technical program will again include several round table discussions, which have become a popular feature of the conference.

Registration fees are \$145 for TAPPI members, \$225 for

nonmembers. On-site registration fees will be \$200 for TAPPI members, \$310 for nonmembers.

The conference will also offer an entertaining and educational spouses program.

For other information on the conference, contact Tom DeSalvo at TAPPI headquarters, Technology Park/Atlanta, P. O. Box 105113, Atlanta, GA 30348, phone (404) 394-6130.

GATF OPPORTUNITY WORKSHOP SCHEDULE — MARCH/APRIL

All workshops are conducted at the international headquarters of the Graphic Arts Technical Foundation located at 4615 Forbes Avenue, Pittsburgh, Pa. For more information on any Opportunity Workshop, contact C. Dwight Horner, Manager, technical workshops, at GATF.

February 28 - March 4: GRAPHIC ARTS TECHNICAL FOUNDATION, Orientation Program I (Methods and Technologies of the Printing Processes); C. Dwight Horner, Workshop Leader.

March 7-11: GRAPHIC ARTS TECHNICAL FOUNDATION, Introduction to Electronic Scanning for Supervisors; Thomas A. Whiteman, Workshop Leader.

March 9-11: GRAPHIC ARTS TECHNICAL FOUNDATION, How to Get the Most Out of Your Web Press (The Technology and Economics of Web Offset Printing); David B. Crouse, Workshop Leader.

March 14-16: GRAPHIC ARTS TECHNICAL FOUNDATION, Paper and Ink Problems in the Pressroom; Nelson R. Eldred, Workshop Leader.

March 14-18: GRAPHIC ARTS TECHNICAL FOUNDATION, Prepress Production; C. Dwight Horner, Workshop Leader.

March 21 - March 25: GRAPHIC ARTS TECHNICAL FOUNDATION, Sheetfed Offset Press Operating; Frank J. Gualtieri, Workshop Leader.

April 5-8: GRAPHIC ARTS TECHNICAL FOUNDATION, Color Controls and Printing Process Standards; Richard D. Warner, Workshop Leader.

April 11-15: GRAPHIC ARTS TECHNICAL FOUNDATION, Orientation Program I (Methods and Technologies of the Printing Processes); C. Dwight Horner, Workshop Leader.

April 18-22: GRAPHIC ARTS TECHNICAL FOUNDATION, Spanish Orientation Program; C. Dwight Horner, Workshop Leader.

April 25-29: GRAPHIC ARTS TECHNICAL FOUNDATION, Web Offset Press Operating; Lloyd P. DeJidas and David B. Crouse, Workshop Leaders.

April 25-29: GRAPHIC ARTS TECHNICAL FOUNDATION, Color Separation; Thomas Phillips, Workshop Leader.

April 27-29: GRAPHIC ARTS TECHNICAL FOUNDATION, Process Color Stripping; Jerome X. Cozart, Workshop Leader.

CALENDAR

American Association of Textile Chemists and Colorists
Color Measurement Symposium, March 8-9, 1983 —
Greensboro, NC

American Ceramic Society
Annual Meeting, April 24-27, 1983 — Chicago, Illinois

CIE
20th Session, August 31 - September 8, 1983 —
Amsterdam, Netherlands

Federation of Societies for Coatings Technology
Annual Meeting, October 12-14, 1983 — Montreal, Canada

Graphic Arts Technical Foundation
Annual Spring Meetings, March 23, 1983 — Pittsburgh,
Pennsylvania

ISCC Annual Meetings
1983: April 10-12 — Louisville, KY, Galt House

ISCC Williamsburg Conference
1983: February 6-9 — Williamsburg, VA,
COLOR AND ILLUMINATION

Optical Society of America
Annual Meeting, October 17-21, 1983 — New Orleans, LA

Society of Photographic Scientists and Engineers
Annual Conference, May 31 - June 3, 1983 —
San Francisco, California

TAPPI
Annual Meeting, March 2-4, 1983 — Atlanta, Georgia
Coating Conference, May 15-18, 1983 — San Francisco, CA

1. Any person interested in color and desirous of participating in the activities of the Council for the furtherance of its aims and purposes . . . shall be eligible for individual membership (By-Laws, Article I, Section 2). Application forms for individual membership may be obtained from the Secretary (address given above).
2. The Council reaffirms its community of interest and cooperation with the Munsell Color Foundation, an independent private foundation devoted solely to the advancement of color knowledge in science, art, and industry. It serves as Foundation Associate of the Inter-Society Color Council. The Council recommends and encourages contributions for the advancement of these purposes of the Munsell Color Foundation. For information, write to S. L. Davidson, 42 Kemp Avenue, Fair Haven, NJ 07701.
3. The Council promotes color education by its association with the Cooper-Hewitt Museum. It recommends that intended gifts of historical significance, past or present, related to the artistic or scientific usage of color be brought to the attention of Christian Rohlfing, Cooper-Hewitt Museum, 9 East 90th Street, New York 10028.

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

Send newsletter items to:
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