CONCEPTS is a conference presented by the Graphic Arts Show Company, the people who bring you Graph Expo and other graphic arts conferences. It is aimed toward the technologies systems software and supplies used in the computer publishing and prepress industries. The conference will stress issues and solutions from the standpoint of users of these products. Its goal is to bring together individuals from all the relevant segments using these technologies.

TAGA and other diverse associations have been asked to cooperate by supplying tutorial presentations concerning vital issues in this industry. As of this writing, Dick Fisch of 3M Company, TAGA Technical Vice President, reports that TAGA's contribution will consist of one-and-one-half hour tutorials on the following subjects:

**New Dimensions in Direct to Plate and Direct to Press Technologies**

**Presenter:** Michael Bruno—TAGA Executive Director

**Abstract:** Printing has experienced many changes since it was introduced in the western world by Gutenberg in 1440 AD. The latest and most important of these is digital printing which became possible with the introduction of desktop publishing in 1985 using the Apple Macintosh computer, Adobe PostScript page description language, Aldus PageMaker, and the Apple Laser Printer. This tutorial briefly describes desktop publishing and discussing six separate systems used for digital printing: (1) Digitally imaged films from which plates are made; (2) Digital plates that eliminate the need for films; (3) Two on-press digital plate printing systems; (4) Direct digital printing by electrophotographic, magnetographic, or ion deposition surfaces imaged digitally on cylinders or drums of press-like printing devices; (5) Direct digital printing onto paper using ink-jet technology; and (6) Direct digital modifications, on press and impression wise of the ink and paper receptivities of special coatings for lithographic printing.

**UPDATE: High Fidelity Color**

**Presenter:** Donald Carl-Nima Hunter

**Environmental Issues in Prepress Production**

**Presenters:** Norman Newman, Gary Legrand—3M Company

**Measurement and Control of Color in the Printing Industry**

**Presenter:** Robert Chung—Rochester Institute of Technology

**Abstract:** Advances in digital electronic prepress technology have given printers and separators a multitude of choices for getting images created, converted, manipulated, captured, and printed. An important question that must be answered by separators today is, “Which prepress path makes most sense in which to invest and best fits my customer’s needs?” RIT conducted a benchmarking experiment to find out how different electronic prepress systems compare to one another in speed and reproduction quality. Four color prepress systems, labeled as desktop, hybrid (combination of high and mid-range), desktop, and hybrid (combination of high-end and desktop) were chosen. This tutorial will discuss how evaluation of page elements was conducted. Major benchmarking findings will be summarized. Issues that involve managing current prepress technology and systems integration to achieve customer satisfaction will also be discussed.

**Device Independent Color: Is It Real?**

**Presenter:** Richard Fisch—3M Company

**Abstract:** The development of open systems in the area of desktop publishing has resurrected the desire to use CIE color definitions (or some subset of them) as a basis for the data processing and storage in electronic imaging systems. This is often called Device Independent Color. As discussed in earlier TAGA presentations (A. Johnson), this has significant advantages for open systems but potential disadvantages for image quality. The major issues for quality relate to gamut compression, and the use of color difference spaces to define appearance. The factors, issues, and pitfalls in this technique will be presented and discussed.

**Color Proofing Technologies, A Comparison**

**Presenter:** Michael Bruno—TAGA Executive Director

**The Essentials of Color Proofing**

**Presenter:** E. Frettem—3M Company
PRESIDENT'S MESSAGE

Summer is rapidly coming to an end, and it has been a busy one for TAGA. By mid October, you will receive your 1992 TAGA Proceedings, Volume I (732 pages) and Volume II (330 pages), which is the proceedings of the TAGA/ESCC Color Symposium held in Williamsburg, Virginia earlier this year. Volume II is a bonus this year at no extra charge to members.

The audio tapes of the Technical Focus Group sessions at TAGA '92 on Desktop Publishing, Ink/Paper/Press, and Environmental Issues are now on sale. Please refer to the ad in this newsletter for details.

The professional in studio production of the video on Calibration and Linearization, a tutorial presented at TAGA '92, is well underway and will be offered for sale in the near future. Be sure to watch for more details in the Fall TAGA Newsletter.

MEET YOUR BOARD

Recently, we interviewed TAGA Director, Sam Ingram who is a professor at Clemson University. Clemson is in South Carolina and has about 13,000 students, of which 200 are in the Graphic Arts program.

1. What does your job entail?
   As a faculty member of a landgrant university, my job is to fulfill the university mission which is to teach; to research; and to perform public service. So, I lecture and oversee labs; I serve on university committees; I do research in the labs for students and for industry; I do public service work such as getting involved in associations like TAGA, working in public schools with curriculum advisory committees, and presenting seminars. (We want to share our expertise with the public; offer our unique talent.)

2. You say you serve on university committees. For those of us not in the educational system, what are typical committees?
   In the past several years, I have been a member of the Faculty Senate which has representation from each of the University's nine Colleges. I researched and wrote the Industrial Education Department's accreditation report for the Southern Association of Colleges and Schools. This effort took one and a half years and culminated in a national visitation committee to review and inspect our programs to ensure compliance with accreditation guidelines. I have also served on the Scholarship and Awards Committee; the Facilities Planning Committee; the Welfare Committee, which recommends policy for all faculty; and the Co-op Committee.

3. What about the research you spoke of? We conduct a variety of research projects. This includes ink testing for offset litho, for flexo and for water-based gravure; blanket testing; and substrate testing. These are typically contract projects with industry.

4. Why did you become a TAGA Student Chapter advisor?
   I inherited the student chapter when one faculty member left. The students asked me, and I wanted to. It was a tight glove fit with my interests in printing and my on-going search for answers for what I encountered in my labs every day. It was an opportunity.

5. How does TAGA make your job easier?
   It brings me current, relevant information for the students. It's a resource for answers and for my career interests.

6. Why did you choose teaching in Graphics as a career?
   In 1989, I was honored as the first recipient of the Mentor Award by the Screen Printing Association. It helped me realize that teaching is both an art and a science. Teaching Graphics had an element of creativity and of the excitement of production. It was an opportunity to teach; to interact with humans; and have an influence on someone's learning. It brought something to the immediacy of print-physical reality and mental stimulation all in one.

7. What do you do in your spare time?
   I play music. I've been a musician since 1964, a guitarist, performing with friends in public. I spend time with my kids, Katie who is 14 and Emily who is 6; and I read trade magazines and technical papers.

8. What did you do before teaching?
   I restored mills; built log cabins; was a potter; a musician and a carpenter.

9. Why would you recommend TAGA to others?
   It's a dynamic collection of individuals who are responsive to the needs of the industry and to its progress and to its movement into the future. So you should join if you want to be a part of that.

10. Do you travel a lot on business?
   I take 8 to 10 trips a year to conferences and trade shows. The University exhibits quite a bit at regional shows. I speak at local and regional associations both on a technical/training level, and on education and the University.

11. What is your opinion about industry being involved in education; and what are you/the University doing to form industry/education partnerships?
   Industry must serve a central role in advising us on trends and on applications in industry; and also on internship openings. Our undergraduate curriculum requires all students to complete a minimum of two internships, so we are constantly inquiring and in contact with potential sponsors. The student must be functional to be employable in our fast-paced industry.

Thanks Sam!
CALL FOR PAPERS
DEADLINE NOVEMBER 1992
TAGA ANNUAL TECHNICAL CONFERENCE
Minneapolis, Minnesota–April 25-28, 1993

Technical papers are now being solicited for the 1993 TAGA Annual Technical Conference. TAGA members and other interested parties alike are encouraged to submit innovative technical and scientific papers for presentation at this conference.

Papers should emphasize original and unpublished research and development in the graphic arts. Papers of a commercial nature are not encouraged. Papers accepted will be published in the 1993 TAGA Proceedings. Please consider my technical paper for presentation at TAGA '93.

The 6th International Printing and Graphic Arts Conference is celebrating its 10th anniversary. The rather young but already well established international conference will be held in Pittsburgh, PA, October 16-22, 1992, home-town of G.A.T.F. The conference is a biennial event co-sponsored by the two major North American pulp and paper associations, the Technical Association of the Pulp and Paper Industry (TAPPI, U.S.A.), and the Canadian Pulp and Paper Association. The Conference Committee has invited TAGA President Ray Prince, technical consultant at GATF, well-recognized expert in printing technology, to be the Keynote Speaker. The invitation is quite appropriate as, indeed, printing and paper go hand in hand.

TAGA PRESIDENT TO PROVIDE KEYNOTE ADDRESS AT THE 6TH INTERNATIONAL PRINTING AND GRAPHIC ARTS CONFERENCE

TAGA NEWSLETTER • Summer 1992
STUDENT CHAPTER NEWS

The Cal Poly student chapter is gearing up for an exciting new year full of interesting activities and new programs. On our long list of things to do is to unite and coordinate all the student chapters. Our goal is to establish and promote more interaction between the student chapters. One of the ways we hope to accomplish this is through the Electronic Mail Network that Eric Neumann is coordinating (see note at end of article). We are now communicating almost daily through E-mail, and we would like to encourage all the students chapters and interested National TAGA members to log on.

Another way in which we hope to unite the student chapters is to jointly plan arrangements for the upcoming conference in Minneapolis. We will be sending out a letter to all the chapters in the next few weeks to discuss this in more detail.

We would also like to take this opportunity to encourage any TAGA members to contact student members to assist us in getting to know you as well as the graphic arts industry.

For comments or more information, please contact us at Cal Poly San Luis Obispo, GRC Department, San Luis Obispo, Calif. 93407, (805) 756-1108 or our E-mail addresses: Deirdre Carney (dcarney@nikelcalpoly.edu) or Kris Back (kbacck@nikel.calpoly.edu)

NOTE: If you wish to participate in the Electronic Mail Network coordinated by Eric Neumann at RIT, you can do so using the following E-Mail address: elnprr@ritvax.isc.rit.edu

TAGA '92 TECHNICAL FOCUS GROUP TAPES NOW AVAILABLE

Every year the Technical Focus Group sessions provide the most action at the Annual Technical Conference. 1992 was no exception. Attendance in each has risen to well over one hundred people attesting to the popularity of these sessions. This year, you have a unique opportunity to sit in on the meetings even if you did not attend TAGA '92. Do you want to argue with Bob Bassemir, ink guru of Sun Chemical? Or to disagree with Patricio Mangin of PAPRÍCÁN, TAGA Executive Vice President, on paper chemistry? Order now and hear the opinions of these people and other industry experts present at the lively Ink/Paper/Press Technical Focus Group Session moderated by Les Watkins of Graphic Fine Color.

"Attend" the Focus Group Session on Desktop Publishing moderated by Patrice Dunn, Vice President, DTI, where current technical and industry structure issues revolving around the desktop publishing phenomena were discussed in this freewheeling session's audio tape.

Ordering is easy! Simply contact TAGA (823-2161) and order the full set of audio tapes covering a vast range of topical subjects pertaining to pressroom equipment and consumables, desktop publishing, and today's hottest environmental issues. This is your opportunity to listen and learn from the foremost experts in their fields. Agree with them or disagree. We promise these tapes are not boring and will give you some strong insights into the issues and realities facing graphic arts industry professionals in the '90s.

TAGA FOCUS GROUP TAPES ORDER FORM

Name ____________________________
Address ____________________________
City ____________________________ State ________________ ZIP __________
Phone ____________________________

Quantity Session Tape Ink/Paper/Press Desktop Publishing Environmental Issues
Price $10 US each $10 US each $10 US each
Total

□ Check enclosed Charge to: □ VISA □ MasterCard Add $5 for overseas shipping.
Exp. Date __ Card No. ____________________________

TAGA '92 TECHNICAL FOCUS GROUP TAPES ORDER FORM

The International Colour Association (AIC) celebrated its 25th Anniversary and the Inter-Society Color Council (ISC) held its 61st Annual Meeting from June 21-24, 1992 at the Princeton University in Princeton, NJ. The meetings included presentations and discussions on a wide range of topics related to color and appearance. Among them were working sessions of ISCC Project Committee #4: Uniform Color Solid, Interest Group #2: Appearance, Vision & Modeling, Interest Group #3: Art, Design & Psychology, Interest Group #4: Color Education, and Project Committee #49: Improved Colorimetry. The AIC Symposium on Color Formulation consisted of two invited papers, thirteen contributed papers. These meetings were preceded by CIE Divisions I and VI sessions and followed by the ASTM E-12 meeting on Optical Properties.

Many different industries were represented by delegates and international participants from 28 countries. Bob Chung and Dick Fisch were in attendance representing TAGA. The presentations generated excellent discussions involving the latest technical advances and information about color in other industries. Next year's ISCC annual meeting will be from April 18-21, 1993, in Newport, RI and will feature a symposium on Color, Regulations, and Environment. The call for papers has been announced by Program Chair Dr. Ramesh Kumar, (401) 823-2161.

TAGA Newsletter • Summer 1992
MEMBER BENEFITS

Member Profile Survey Results

With the Spring issue of the TAGA Newsletter, each member received a Member Profile Survey form. The information you shared with us is provided below in an effort to allow all TAGA members to profit from the survey results.

What are your best technical information sources outside of your own company?
Please be specific. Note: The number in brackets is the # of people who listed this same source.

- GATF Library (5)
- Research & Engineering Council - R&E (3)
- National Association of Printing Ink Manufacturers (3)
- American Chemists Society—ACS
- Federation of Coatings Technology
- Printing Industries of America (2)
- International Association of Research Institute for Graphic Arts Industry (2)
- IFRA
- Society for Imaging Science and Technology—IS&T
- Rochester Institute of Technology
- RIT's Technical & Education Center (4)
- International Packaging Group
- S.D. Warren Research
- Dupont
- Kodak
- Research & Engineering (R & E) Patent Abstract
- Technical Assoc. of Pulp & Paper (TAPPI) abstracts
- NPIRI summer courses at LeHigh University
- electronic data bases
- Flexo Technical Association—FTA
- Polygraph Endecser
- Drucksiegel
- National Association of Printers and Lithographers—NAPL
- National Resources Council of Canada, Library Services
- Intaglio Research

What technical journals do you read?
- American Chemists Society Journal (ACS)
- Analytical Chemistry
- Applied Mechanics Review
- ASME Mechanical Engineering
- Colour Research and Application
- Colour
- C & E News
- Chemical Engineering/Energy Progress
- Electronic Design News
- Institute of Electrical and Electronic-Engineers Spectrum
- IEEE Trans Magnetism and Magnetic Materials
- ISEE Instrumentation and Measurement
- Imaging Science and Technology Journal
- ISGT
- Journal of American Oil and Chemical Research
- Journal of Paint Technology
- Journal of Coatings Technology
- Journal of CCA
- Journal of Oil & Colour Chemists Assoc. (OCCA)
- Journal of Applied Polymer Chemistry
- Journal of Visual Communication
- Journal of Pulp and Paper Science
- Journal of Science Instruments
- Journal of Applied Physics
- Journal of Photographic Science
- Langmuir
- Optical Engineering
- Physics Review
- Physics Today
- Professional Printer
- Quality Progress
- RAD Tech
- Review of Scientific Instruments
- Research & Engineering (R&E) Patent Abstract
- Scientific Instruments
- SPIE Journal
- Science
- S.A.
- Technical Assoc. of Pulp & Paper (TAPPI) Journal

What books/videos have you read/seen that you would highly recommend?
(Please specify author/video if you know them.)

VIDEOS
- Discovering the Future—The Business of Paradigms (Joel Barker)
- Thriving on Chaos (Tom Peters)
- Colour Spaces/IT8 (Rand & McDowell)
- Quality-The Big Picture (Salenger)

BOOKS
- Gravure Process & Technology (GAA)
- The Goal (Goldratt)
- Out of the Crisis (Deming)
- The Silent War (I. Magazine)
- How to Check & Correct Colour Proofs (Bann & Garagan)
- Desktop Publishing in Colour (M. Kiernan)
- Measuring Colour (Hunt)
- Printing Ink Manual
- Digital Image Processing (Gonzales & Wintz)
- Reproduction of Colour (Hunt)
- Colour Reproduction (G. Field)
- Electronic Imaging (G. Field)
- Dr. Deming (R. Aguayo)
- Principles of Colour Proofing (Bruno)
- Electronic Colour Separation (Moll)
- World Class Manufacturing (Schonberger)
- Total Productive Maintenance

Thanks to all of you who took the time to complete the TAGA Member Profile Survey form!
The TAGA Proceedings and the TAGA Journal, a Comparison

In some circles there appears to be a confusion between the two TAGA Publications and a similarly named TAGA Student Chapter Publication.

The TAGA Proceedings is the publication of the papers given orally at the TAGA Annual Technical Conference. The authors need not submit a full paper to the papers committee to be selected for an oral presentation. Only an abstract is needed. Therefore the papers are not checked for accuracy and completeness. Additionally, even though we attempt to limit commercialization in these papers some filters through. Some earlier Proceedings were quite commercial. Therefore Proceedings papers are not considered fully referenceable in some circles. Publications of such papers are not abstracted in some data bases. Therefore good information is lost to the graphic arts community.

The rules for publication include camera ready text and art. There are no direct publication costs to the authors. The author, however, must present his paper in person, and therefore incurs transportation, accommodation and conference attendance costs. An abstract admission form for people who wish to present a paper at this year's technical conference in Minneapolis, Minnesota, April 25-28, is in this issue of the newsletter. Abstract closing date is November. In the last two years we have had more abstracts than we could use. Please get your abstracts in as soon as possible.

The student publication using the banner The TAGA Journal is a publication of the TAGA RIT Student Chapter. Its contents are not under the control of the Technical Vice President, or the Papers Committee. That publication serves to enlighten the reader concerning aspects of the graphic arts important to the chapter and its members. The articles are not subject to independent peer review and are neither referenced nor abstracted.

TAGA Journal is intended to be a fully non commercial, highly accurate, complete record of a unique piece of information of interest to the graphic arts community. The papers submitted are reviewed by two specialists in the paper's subject matter. The identity of the authors and reviewers are unknown to each other. The paper must pass the review before it can be published. To insure publication, the author must respond to reviewer comments on the paper's contents. Because of this procedure, the articles are non commercial, fully referenceable, and accepted through the community. When accepted the papers are typeset and distributed with other referenced papers to the TAGA community with no additional charge to their membership fee.

The author pays a cost of $80 (US) per page for publication. These publication charges are comparable to almost all of the " refereed" type publications. Some publications do have both a charge per page to the author plus an invisible charge to their membership. In those cases a journal charge is included (non optional) in their membership dues. Some consider the publication cost of $80 per page high. It barely covers the association's costs. It is also competitive to the costs of a paper presented at an annual meeting and reproduced in the Proceedings. Lets compare the costs to an author of a paper appearing in the Proceedings.

Out-of-pocket costs to an author of a paper in the TAGA Proceedings:

- Transportation: R/T @ $400.
- Lodging @ $125/night (3 days) @ $375.
- Meals @ $125.
- Attendance Fee @ $395.
- TOTAL: @ $1295.

Out-of-pocket costs to an author of a paper in the TAGA Journal:

- $80 (US) per page @ an average page count of 7 pages @ $560. TOTAL: @ $560.

As this comparison indicates, the (author)'s costs for TAGA Journal publication are considerably less than the costs of presenting a paper at the Annual Conference. Actually the real costs of publishing a paper in the Proceedings are partially subsidized by commercial contributions.

Additional benefits for conference attendance include an opportunity to hear the additional 36 other papers presented, to network one on one with professionals, to participate in the Focus Groups (Color Applications; Ink, Paper, and Press; Desktop Publishing; and Environmental Issues) as well as attend the two free tutorials.

Persons not able to attend a conference, or who wish the additional benefits of a review paper are encouraged to send their original work to the TAGA Technical Vice President (Editor in Chief of the TAGA Journal). Additional details on the topics, format, copyright, as well as an application form can be obtained by sending a FAX to R. Fisch at 3M Company, St. Paul, MN (612) 733-4153.

TAGA TO PARTICIPATE IN CONCEPTS (continued from front cover)

Experiences with CEPS Links: Hype and Reality
Presenter: Curt Thormodsgaard—Consultant

Quality in Imagesetting: Part 1—Calibration
Presenter: Alice Menzer—3M Company

Quality in Imagesetting: Part 2—Linearization
Presenter: Sharon Bartels—3M Company

The End and Reason for it All: The Press
Presenter: To Be Announced

Please support TAGA by attending one or more of these outstanding tutorials at the first CONCEPTS conference in sunny Orlando next February. We hope to see you there!
TAGA Executive Vice President Patrice J. Mangin has been granted Fellowship of the Institute of Printing for his distinctive contribution to the science and art of printing. The Institute of Printing is a British professional society that monitors professional standards through examinations and publishes the journal "Professional Printer". Dr. Mangin is the author of more than 40 scientific and technical papers. He is the first North-American papermaker to be granted IOP Fellowship. As an IOP Fellow, Dr. Mangin joins the very small group of other TAGA members who were granted IOP Fellowship. Among them, Gary G. Field and TAGA Executive Director Mike Bruno.

Edmund Funk, vice president of marketing for the General Printing Ink division of Sun Chemical Corp., was recognized as a Printing Ink Pioneer at the recent National Association of Printing Ink Manufacturers Annual Convention.

Ed Kelly, Industry Relations and OEM Programs manager for 3M Printing & Publishing, received the JOZEF COHEN RECEIVES ISCC MACBETH AWARD

At the ISCC (Inter-Society Color Council) meeting in Princeton June 22, 1992 Dr. Jozef Cohen of the University of Illinois was awarded the ISCC Macbeth Award.

The Macbeth Award was established in 1972 in honor of Norman Macbeth, Sr., a founding member of the ISCC and founder of the Macbeth Daylighting Corporation. The award is given biannually for outstanding contributions to the field of color. The contribution may be a direct practical development in a particular area of color or it may be an outstanding dissemination of knowledge of color by writing or lecturing.

Dr. Cohen, educator and psychophysicist, was recognized specifically for his formulation and development of Matrix R, a mathematical approach to colorimetry.

Dr. Cohen's Matrix R was born roughly 1975, but ideas like people must have time to grow and develop. It is just now coming of age. It started as a spectral decomposition theory applied to metamers. However, recently the number and breadth of applications has been growing. Some examples include Hugh Fairman's Proposal for an Interchange Specification, an article on color correction of CRT displays using principle component analysis by Vrhei and Trussell soon to be published in Color Research and Application, and even applications in the field of mechanics. Matrix R is founded in basic mathematical formulation that allow communication among scientists well beyond the discipline of color. Thus the interchange of ideas and concepts through many scientific fields has been facilitated, and all those involved have gained from the exchange.

In his acceptance speech as well as in after dinner conversations with Dick Fisch, Technical Vice President of TAGA, Dr. Cohen specifically expressed his appreciation to Mr. Paul Guy and to TAGA for giving his ideas the chance to be presented to the world and to grow in dimensions he did not conceive of at the time. Dr. Cohen first presented his ideas at the 1976 TAGA Annual Technical Conference in a paper entitled Euclidean Color Space and Its Variants authored by Dr. Cohen and Thomas Frieden which can be found on pages 411-429 of the 1976 TAGA Proceedings.

Since 1948 Dr. Cohen has directly influenced the education of thousands of college students, and reached innumerable others through his writing: He is the author of the Eyewitness Series in Psychology, as well as articles on the history of ideas and science.

TAGA wishes to acknowledge Dr. Cohen's contributions and congratulate him on his achievements and especially the receipt of the Macbeth Award.
**TECHNICAL ASSOCIATION OF THE GRAPHIC ARTS (TAGA)**

One Lomb Memorial Dr., P.O. Box 9887
Rochester, NY 14623-0887

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<td>Toray America Inc.</td>
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<tr>
<td>Western Lithotech</td>
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<tr>
<td>Weyerhaeuser Corp.</td>
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