The Stockholm Conference agenda is set and there’s quite a buzz about this program. We’ve already had inquiries from as far as Nigeria and people have even used draft documents to register for the program. Since the last edition of the TAGA Newsletter CIP4, Grafsika Företagens Service AB, Tidningsutgivarna (e.g., the Swedish newspaper publisher’s association), and IFRA Nordic have all decided to endorse the conference. There have also been some additions to the agenda:

- Dr. Rainer Prosi of Heidelberger Druckmaschinen AG will present a device-description syntax based on JDF for describing device capabilities which includes support for both describing a job from a customer’s point of view as the description of a product or a set of products as well as from a printer’s point of view as a set of process steps that are executed to produce a product. Dr. Prosi’s presentation is based upon current discussions within the CIP4 Device Capabilities Working Group, which is considering extending the JDF specification by adding a device-description syntax.

- Henry B. Freedman, Chairman and Director of Research at Electronet Information Systems, will present the state of the art in the application of expert systems technology incorporated within automated printing control networks. In addition, he will introduce an “Economic DNA” concept whereby each individual printed work being produced can automatically report basic cost building blocks from the manufacturing process that are unique to that work being produced.

- Tien-Rein Lee of the Chinese Culture University will discuss a study of the affective factors of the “Ideal book publishing format” including constructing a Consumer Satisfaction Model and Ideal Book Evaluating Index.

- Yuri V. Kuznetsov, Inna V. Kostuk, and Paul A. Wolnekvin of the St. Petersburg Institute of the Moscow State University of Printing will discuss automatic design of halftoning dots.

- Nobuaki Usui, Senior Researcher at I/O Systems Laboratory, Fujitsu Laboratories Ltd., will discuss optimizing the adaptive screening process.

The TAGA Stockholm Conference will be held October 21–23, 2001 at the Scandic Hotel Slussen in Stockholm Sweden. Plan now to attend this key industry event. For agenda and registration information updates, please see http://www.taga.org/events/taga2001-stockholm.html or check your mailbox for the conference brochure.
From the Digital Smart Factory Forum

XML: What is all the fuss about?

Reported by James E. Harvey, TAGA Director of Program Development

In a presentation entitled, “XML & JDF: 101,” presented by Dianne Kennedy of XML Xperts at this year’s Digital Smart Factory Forum, Diane said that E-business is more than setting up a web site and getting online, it’s becoming increasingly about conducting transactions across the Internet, sometimes without human intervention. Companies such as Amazon.com use XML to personalize the consumer’s buying experience and to reliably deliver books. The Wall Street Journal once stated, “XML will reshape industries, displace incumbents, reduce prices, accelerate global trade and otherwise revolutionize all commerce.”

Tim Berners-Lee, who was then working for CERN, developed HTML in the late 1980’s. Berners-Lee is now the chairman of the Worldwide Web Consortium. HTML used SGML syntax in creating a simple set of tags that a web browser could use to interpret and present information. The browser provides the look of the page; style is not carried in the tagged document. Furthermore, a simple DOS or ASCII editing tool could be used to create HTML files. The original browser was a free-ware software package called Mosaic. Mosaic is the basis that Microsoft Explorer and Netscape Navigator are built upon. <HTML> is the tag that begins the HTML document and tells the browser that it is an HTML document. The tag <BODY> begins the part of the document that will display to the screen. Tags that appear between <HTML> and <BODY> are typically meta tags that provided information such as keywords for searchability. This is where XML began to creep in.

The first HTML users were for the most part from the academic community. They didn’t care much about formatting or graphics. In 1994 the worldwide web began to be viewed as something that could be used in the commercial arena, and the need for better presentation and graphics became important. Furthermore, web tools such as HotMetal and FrontPage began to appear that provided a graphical editing environment. These packages made heavy use of font calls and presentation control.

HTML lack depth and flexibility and in 1996 the browser wars lead to a greater need for additional style functionality; hence, style formats such as cascading style sheets and later XML style language were created. Subsequently, the eXtensible Markup Language was created. Cascading Style Sheets (CSS) assign design to individual HTML tags. An example of a large blue italic header might look like:

```
H1 {color:blue; font-size: 18pt; font-style: italic}
```

In the case of content, HTML was used to present products in catalog form, but once the product and pricing data was moved to HTML for web processing, there wasn’t much that could be done with the information. XML allows E-Commerce companies to use active data that can be related right back to the database; hence giving life to online transactions. In XML an E-com smerce company can have elements such as <price>, <time> and <bidder>. In this example, XSL can be used not just to format the data into let’s say a table, but to also sort order that table by highest or lowest price, or alphabetically by bidder name. XML is just one of a family of standards. Other XML standards include:

- **XML Schema Definition Language**
  Provides an alternative to XML DTD for specifying constraints and rules. Allows data typing and field definitions in creating XML rules.

- **XML Query Language**
  Brings together the concepts of text-based queries and relational database queries. It should be done in mid-2002.

- **XHTML**
  Does not require that you keep every end tag (e.g., allows “omit tag feature.” It is a family of document types and modules that reproduces, subsets, and extends HTML 4.0 and provides a migration path to XML. The web community is pushing XHTML as the key to seeing web content on handheld and wireless devices. These devices typically don’t have much in the way of spare screen space or memory. Where HTML is very forgiving and allows for minor mistakes to still be successfully presented to the screen, XHTML is more structured and less forgiving.

XML application standards alone are not enough. Industry vocabularies are needed by industries to deal with industry-specific workflows and information requirements. One example of an XML vocabulary is the ICE specification developed by a GCA/IDEAlliance group. Another is the Job Description Format (JDF).

JDF breaks a job into a product that is processed through a series of nodes. Nodes may be scanning or printing or binding. JDF uses XML to provide instantaneous job tracking as well as pre- and post-production management estimates. The intention is to integrate management, manufacturing, delivery, and MIS control. E-procurement companies will be able to directly integrate JDF into print management systems, accessible via online web sites and users will get a more cost-effective workflow.

In summary, XML is a partner standard with HTML. 95% of XML usage is “behind the scenes,” dealing with systems-to-systems data exchange and “serving up the data.” Typically XML serves data from systems to HTML for presentation on the screen. Only Microsoft’s Explorer uses XML directly.

ABOUT THE FORUM

The Digital Smart Factory Forum is sponsored and organized by the Research & Engineering Council of the Graphic Arts and Graphic Communications Association (GCA), and is endorsed by the Technical Association of the Graphic Arts (TAGA) and the International Cooperation for the Integration of Processes in Prepress, Press, and Postpress (CIP4) association. This is the third iteration of the Digital Smart Factory Forum and there were 59 registered attendees, of which more than half were non-manufacturer technical managers and staff from publishers, printers and prepress services. Thirty nice people attended the tutorials.
ALL ACTIVE TAGA MEMBERS ARE INVITED TO ATTEND
The 5th International Printing Congress of TAGA and Verein Deutscher Druckingenieure (German Association of Printing Engineers)

September 6, 2001, in conjunction with PRINT '01
Location: Vista Ballroom S 406A, McCormick Place, South Hall, Chicago, Illinois, USA

Admission is free of charge to all active TAGA and VDD members, so if you plan to attend PRINT '01, be sure to join us at this exciting members only event! Since space is limited, please contact TAGA immediately to make your reservation: Phone (716) 475-7470; Fax (716) 475-2250; E-mail: TAGAOfc@aol.com.

3:00 PM WELCOME AND INTRODUCTIONS

TAGA Vice President
Technical Papers
Dr. Richard Goodman
Manager, Plate Research
Kodak Polychrome Graphics, USA

OPENING REMARKS

President of TAGA
Dr. Bruce Blom
Manager, Paper and Graphics Education
Mead Corporation, USA

President of VDD
Dr.-Ing. Ulrich Jung
Head of Division
MAN Roland Druckmaschinen AG
Offenbach, Germany

3:20 PM PRODUCTS YOU MUST SEE AT PRINT '01

William C. Llamparter
President PrintCom Consulting Group, USA and Chairman of Executive Outlook® 2001

3:45 PM PROCESS CONTROL & PRESS AUTOMATION: WHAT THE FUTURE HOLDS

John Sweeney
Director of Color Measurement Systems
Graphic Microsystems, Inc., USA

COFFEE BREAK

4:30 PM HYBRID TECHNOLOGIES AND HYBRID PRINTING SYSTEMS

Innovative Concepts and Applications for High-Quality Print Media Production

Prof. Dr. Helmut Kipphan
Senior Vice President - Advanced and Future Technologies
Heidelberger Druckmaschinen AG
Heidelberg, Germany

4:55 PM PRESS DESIGN INNOVATIONS STIMULATED BY REIMAGEABLE CYLINDERS.

Dr. Josef Schneider
Executive Vice President Business Unit Digital Systems
MAN Roland Druckmaschinen AG
Augsburg, Germany

5:20 PM WATERLESS NEWSPAPER APPLICATIONS, A JOINT EFFORT IN APPLICATION AND MACHINE ENGINEERING

Dr. Karl Schaschek
Head of Competence Center R&D Koenig & Bauer Druckmaschinen AG
Würzburg, Germany

5:45–6:00 PM WRAP-UP AND DISCUSSIONS

6:30–7:30 PM RECEPTION

7:30 PM DINNER

3:00 PM WELCOME AND INTRODUCTIONS

TAGA Vice President
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Kodak Polychrome Graphics, USA

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TAGA 2002 ASHEVILLE: Call for Papers
Are You Part of the Solution?

by Dr. Richard M. Goodman, Manager, Plate Research, Kodak Polychrome Graphics

In the last edition of the TAGA Newsletter the lead article titled RR Donnelley Prioritizes R&D Requirements for Technical Community was based on Grant Miller’s opening keynote address at the 2001 TAGA Annual Technical Conference. Grant Miller, RR Donnelley’s Vice President of Technology, challenged the R&D community to create a “more stable and repeatable process.” In doing so, Mr. Miller categorized print technologies into three groups: Evolutionary, Revolutionary, and Strategic and then went on to identify specific developments in each area. (See http://www.taga.org/events/taga2001-SDKeynote.html for the complete coverage of Mr. Miller’s presentation.)

The core track or general sessions at TAGA 2002 Asheville, (which will be held at the Asheville Renaissance Hotel in Asheville, NC, April 14–17, 2002), will be organized as a response to Mr. Miller’s challenge. Researchers are invited to submit abstracts to TAGA via email at TAGAOfc@aol.com and to cite within their abstract what topic or aspect of Mr. Miller’s presentation they are answering. We invite all TAGA members to consider Mr. Miller’s challenge and consider: Are you part of the solution?

TAGA Director of Program Development, Jim Harvey, and I will be inviting Mr. Miller and peers at leading printing companies to review presentations at the TAGA conference, and to close the ATC with an evaluation of the industry’s response, as well as direction for the future. In short, we are creating a dialogue between lead “user” CTO’s and the R&D and academic communities.

In addition to the general sessions, TAGA is also planning a few specialty tracks, to include:

PRESS TRACK
Optimization and control of a press is a requirement of accurate color management in prepress and color proofing. How do we identify the
THE “IMPACT” DIMENSION

“I want the reds to talk to me,” “We need more ‘punch’ in these colors,” “The purples are too weak.” . . . such terms from the art director’s or print buyer’s lexicon refer to the color saturation dimension of color space. The usual meaning of such phrases is that the color (or colors) in question need to be reproduced with more visual impact. The terms purity, chroma, brilliance, vividness, intensity, strength, richness, cleanliness, brightness, and colorfulness are often used (sometimes incorrectly) to refer to color saturation. The term “redder,” for example, is sometimes used to mean “greater saturation” instead of a shift around the hue circle.

In essence, saturation describes how a given hue differs from neutral. A khaki, for example, has low saturation whereas a lemon yellow has high saturation. An olive drab has low saturation, and an emerald green has high saturation. The closer a given color sample tends towards neutral, the lower its saturation. The more a given color appears to lack any graying influence, the higher its color saturation. As a practical matter, when lightness values are either very high or very low, the possible range of saturation tends to diminish. Pure white and pure black have no saturation.

COLOR SATURATION AVAILABILITY

The spectral purity of the yellow, magenta, and cyan printed ink films does much to establish the saturation of the reproduction. Unwanted absorption of light by the pigments (e.g., the unwanted blue and green absorption of cyans) and the color degrading influence of absorptive, low gloss substrates (e.g., newsprint) limits the saturation available from process inks.

Additivity failure (the condition where two overlapping primary colors fail to produce a full strength secondary color) limits the saturation of the overprint red, green, and blue colors. This condition becomes especially significant when less than perfect wet-on-wet ink trapping conditions exist.

Proportionality failure (the condition where light halftone values of a given primary color fail to retain the same proportional saturation and hue as a solid tone of that primary) limits the saturation of light tonal values. This condition is worse for coarse screen than it is for fine screen halftones.

The color saturation limits of a given reproduction are, therefore, established by a combination of the initial selection of ink set and substrate, the halftone screening process, and the efficiency with which the inks overprint previously printed ink films (Field, 1999).

Color saturation may be maximized by adopting the following strategy: choose a substrate with high whiteness, brightness and gloss, and with low absorptivity; select a set of process inks with high transparency and low levels of unwanted light absorption; specify a fine (about 250 lp; or stochastic) halftone screen ruling; and achieve ink trap efficiency that approaches 100 percent (such efficiencies occur in the gravure process when a just-printed ink film is dried prior to being overprinted with the next ink film). In some cases, the manipulation of ink film thickness (IFT) may improve saturation at the expense of lightness or contrast in certain regions of color space. This approach (the pursuit of Vivacité) was explored at some length by Frank Preucil, but it is probably not practical unless extra (5-, 6-, or 7-color printing) inks are used to help overcome the lightness losses and the overprint hue shifts that occur when IFTs are selectively lowered or raised.

SATURATION OBJECTIVES CONSIDERED

The saturation of reds is a common enough concern to use this hue to illustrate how the reproduction objectives might be considered. A reproduction of a deep red rose, for example, will require that the perceptual distinctions between each saturation level are maintained. The “interest area” (to borrow a term from tone reproduction) of the rose extends over the full range of saturation. If the higher saturations are ignored in favor of a more faithful reproduction of the less saturated areas, the reproduction will lack detail in the reds and be considered unsatisfactory.

If a deep red rose and a light pink rose are reproduced side by side, a supplementary ink will usually be required for a good result even if the strategy detailed above is followed. Typically, a pink (magenta plus white) will be used to substitute for magenta in the pink rose—this overcomes the graying and hue shift influence of the halftone screen on the magenta ink film. The pink will also print solid in the red rose and therefore contribute some extra saturation to that image.

The reproduction of a red sweater in a catalog must, first and foremost, be perceived as accurate within the context of the picture. Under such circumstances other red objects may normally be ignored in favor of the sweater. The ignored reds may be reproduced inaccurately, but this is not important provided that they are small in area and that their position does not unduly influence the perception of the sweater “interest area.” If an accurate reproduction of the red sweater results in a loss of important texture or knitting pattern detail, the saturation objective may have to be traded off against the perception of saturation distinctions or detail.

The correct saturation choice depends upon the importance of the color within the context of the image as considered from the broader purpose perspective of the printed reproduction. This is exactly the same type of informed judgment that is required when making tone reproduction compression decisions.

IMAGE COLOR SATURATION

Once the printing system saturation is maximized or established, the task of realizing ideal image color saturation becomes a function of the prepress processes. Today’s image processing methods utilize color look up tables coupled with a sophisticated series of software routines designed so that the operator may make global or local modifications of hue, saturation or lightness.

In the past, color separators adjusted gradation for tone reproduction and gray balance for correct hue prior to turning their attention to
the process of color correction. The primary effect of color correction was improved color saturation.

**REMEMBER COLOR CORRECTION?**

One long-standing meaning of the term “color correction” is the process of modifying a particular color until it is satisfactory to the customer. Another, now increasingly uncommon, meaning of the term refers to the use of photographic, electronic, or manual techniques to compensate in the color separations for the unwanted absorptions and other defects concerning printed ink films.

Sample reproductions, made for purposes of illustration, with no color correction appeared “dirty” or lacking saturation in the pure color areas. A combination of photographic masking and manual retouching was employed in the early days of color reproduction to produce reproductions with good color saturation. The electronic scanner (which initially used circuits that mimicked color masking) greatly simplified the color correction process and also introduced “over correction” as a concern; i.e., colors could be reproduced with too much saturation and therefore appear unnatural. Such over correction was rarely encountered with photographic color masking methods because of the practical constraints imposed upon the strength of the masks. No such limitations applied to the voltages within the scanner correction circuits. Color correction was therefore synonymous with saturation adjustment (Field, 1989).

**STRATEGIES FOR IDEAL SATURATION**

The careful calibration of tone reproduction, gray balance and color correction that was practiced in the past have been largely superseded by today’s color monitor assisted methods of image adjustment. Software driven slider controls (Caponigro, 2001) allow the operator to vary saturation over a range from a black-and-white, totally desaturated representation to a vivid, cartoonish over-saturated abstraction. The saturation (and other) controls are interactively adjusted until the ideal appearance is represented on the monitor. This approach has been termed the “buccaneer” strategy by Dan Margulis, a leading authority in monitor-based image optimization strategies.

In the hands of a skilled operator, however, the opposite approach (that of the “calibrationist”) can yield more rapid setups by the systematic application of a few rules than those obtained by trial-and-error methods. There are two general strategies employed for establishing ideal saturation adjustment.

When a critical picture color has to (and can be) reproduced as closely as possible, the objective is termed a colorimetric match. This strategy ignores the non-critical colors which may lie outside of the reproducible gamut. The net effect is that non-gamut colors are reproduced at the gamut boundary; i.e., the original saturation distinction between boundary and non-gamut colors is now eliminated.

The alternative strategy, when faced with non-gamut colors, is to compress the saturation until the non-gamut colors lie at the gamut boundary. This technique will reproduce colors, which could have normally been reproduced at the boundary, at a lower saturation than was actually possible. The objective in this case is to reproduce saturations with approximately the same perceptual relationship to each other, rather than to accurately match some saturations and ignore others. This has been called the consistency principle by Ralph Evans, and has been paraphrased: “reproduce all colors equally badly.” In fact, this latter strategy almost always produces higher overall quality reproductions than the colorimetric match approach.

Color management systems allow the operator to choose between “colorimetric” and “perceptual” saturation reproduction strategies. In an ideal world the ink-on-paper gamut would be sufficiently large such that saturation compression decision would not have to be made. Sometimes, extra inks or overprint varnishes may produce the ideal gamut. More likely, however, economic conditions will dictate a somewhat unspectacular gamut that will require an informed choice between colorimetric and perceptual strategies. Such choices are dictated by the color reproduction objectives (“exact” vs. “optimum”) and tempered by the operator’s skill in satisfying such demands as “I want the colors to sing!”

**FOR FURTHER INFORMATION**


**THE AUTHOR**

Gary G. Field is an Imaging Scientist and Professor of Graphic Communication at the California Polytechnic State University in San Luis Obispo, California. ■

**TAGA Newsletter #138 Errata**

Due to a production error, my last Color Concepts column had the same title as my column which appeared in the previous issue #137. The correct title of my last column in issue #138 is “Color Image Sharpness” NOT “High Resolution Color.”
FILLING A VOID IN THE GRAPHIC ARTS
Introducing the Journal of Graphic Technology

by Dr. Juanita Parris, Director of Analytical Science at Sun Chemical Corporation

A few years ago TAGA Board members Richard Fisch, Patrice Dunn, Ray Prince and few TAGA member volunteers attempted to publish a peer-review journal, but it never came to fruition. Is there a real need for a peer-review process? If there is a need, is this the right peer-review vehicle for serving the TAGA membership? TAGA members have continued to express an interest in a peer-review process. Some members have asked that the Annual Technical Conference adopt an optional peer-review paper process, others have stated that there is a need for a graphic arts journal.

There seems to be an a priori need for a peer-review process, but we’ve already learned that creating a peer-review process will take a lot of effort, funding, and dedication before it takes on a life of its own. The TAGA Board asked TAGA Program Development Director Jim Harvey and I to conduct a study on the subject of peer-review, which included a survey of prior TAGA papers presenters, TAGA student chapter faculty, and non-member graphic arts departments. We found that there is an overwhelming need for a peer-review process, as well as sufficient demand to justify the introduction of a peer-review journal specific to the graphic arts.

According to the Magazine Publishers Association, there are 296 periodicals that support the graphic arts in North America alone. However, the majority of these are either specialty magazines that are very narrowly defined or they are trade magazines. Worldwide, there is not a single peer-reviewed technical journal dedicated to the graphic arts. Many authors of technical papers publish in journals that are either peripheral to the graphic arts, (such as The Journal of Visual Communication and Image Representation, which covers mostly non-graphic arts topics), or completely outside of the graphic arts, (such as The Journal of Industrial Technology). Printers, prepress professionals and other graphic arts “users” never see these technical papers; hence, there is a disconnect between the users and the researchers, as well as between the researchers themselves.

Of the schools surveyed, representing a total of 193 full-time and part-time faculty, 82% either require or encourage that faculty papers be peer-reviewed. A full 70% felt that there is a need in our industry for a peer-reviewed journal and 76.5% believed that TAGA is the organization that should publish such a peer-reviewed journal. The major motivation of nearly all of the respondents was that others snub their departments, faculty, and industry because there is no widely recognized peer-reviewed journal for the graphic arts and communications industry. In fact, approximately half of the programs do not have an independent identity—many are programs or components of design, industrial engineering/technology, or media departments.

In the case of industry participants, 97 surveys were circulated to people who have previously presented papers at TAGA conferences. Forty-two completed responses were returned, of which 39 (93%) indicated that TAGA should initiate a peer-review process. The respondents did not want to tie a peer-review system to the selection of ATC papers, with the general belief being that the ATC system works fine and should be left alone. However, there are least 70 papers published by our sample subjects each year that are suitable for peer-review—enough to justify a quarterly graphic arts peer-review journal.

Harvey and I presented a 56-page Peer Review Analysis & Report to the TAGA Board during the ATC in which we concluded that there is indeed a demand for a peer-review journal dedicated to the graphic arts. (If you would like a PDF copy of the report, please write to Jim Harvey at TheHarvey3@aol.com.) This was clearly a “call for action,” and the TAGA Board has responded. With a few modifications, the TAGA Board has approved and funded development of the Journal of Graphic Technology. The Journal of Graphic Technology will be published on a regular quarterly basis beginning in the first quarter of 2002.

An Editorial Advisory Board was immediately formed of TAGA member and board of director volunteers, which I chair. I will also serve as the initial editor of the Journal of Graphic Technology. Editorial Advisory Board (EAB) members include:

- Robert W. Bassemir, Sun Chemical Corporation
- Dr. Mark Bohan, University of Wales Swansea
- Richard S. Fisch, Imation Enterprises
- Edward M. Granger, Ph.D., Rochester Institute of Technology/Ontario Beach Systems
- James E. Harvey, TAGA
- Dr. Richard Holub, IMAGICOLOR
- Leigh Alan Kimmelman, Shira Inc.
- Bernard Pineaux, E.F.P.G.
- Dr. William J. Ray, Group InfoTech Inc.
- David Romano, AGFA Corporation
- Miles Southworth, Graphic Arts Publishing Company
- Dr. Anthony P. Stanton, Carnegie Mellon University
- C. Jeffrey Wang, NexPress Solutions LLC

Since the ATC, the EAB has developed a set of author’s guidelines for paper submission, manuscript preparation, and copyright assignment. These guidelines have been finalized and can be found on the TAGA website at http://www.taga.org/journalgraphitech/index.html. Since the Journal of Graphic Communications is new, we felt that it was our highest priority to get the author’s guidelines published to allow researchers time to prep for submission for the inaugural edition. The EAB has identified three peer-reviewed paper types and formats that should accommodate all graphic arts topics:

**QUANTITATIVE RESEARCH**

Quantitative research papers are traditional scientific papers that present the problem, discuss the background of the problem, present a hypothesis, discuss an experimental method to be applied, present the results using analytical statistical methods, and provide conclusions and recommendations for further research.

**ENGINEERING**

Engineering papers may not only include mechanical and electrical engineering subjects, but may also include approaches to computer
programming, systems design, computer integrated manufacturing, XML applications, and so forth. In some instances paper making, ink, and other materials chemistry developments may be more suited to an engineering paper than a quantitative research paper.

Engineering papers are not quantitative, but rather present a technical solution to a problem. The paper will follow a modified outline. The problem and its significance must first be addressed in detail, along with criteria for successful solutions. This section of the paper must be followed with a detailed survey of current approaches and solutions to the subject problem and must demonstrate clearly how said approaches and solutions fail to meet the criteria for success. The author’s solution is then presented followed by quantitative arguments showing the degree to which the solution meets the criteria for success. The paper must conclude with a discussion of application as well as suggestions for further study and design.

QUALITATIVE RESEARCH

Subjects such as workflow analysis, digital copyright protection, color perception, management methodologies, cognitive retention of imagery or design, print quality studies, information architecture development, and so forth may not be suitable for quantitative research or engineering paper formats. When the other preferred categories are not appropriate, a qualitative research paper format may be used. Original case studies, surveys, interviews, subject sampling and analysis, or comprehensive library research must support all qualitative research papers. In most cases, but not all, the use of descriptive statistical methods or comparative tabulation should be used in the author’s analysis. [An example of comparative tabulation would be a return on investment (ROI) analysis.]

Qualitative research papers may also use a modified outline, but unlike engineering papers there is not a prescribed outline that must be followed; rather there are required elements. The required elements of a qualitative research paper, (in addition to references, footnotes, title, abstract, etc.), are:

- A clear definition of the subject area and its meaning to the graphic arts and communications professional.
- A thorough discussion of previous work on the subject, as well as a definition of any applicable current best practices or standards.
- A discussion of current problems or shortcomings of such previous work supported in part by original research (as described above) and descriptive statistics if applicable.
- The author’s analysis and study.
- The author’s conclusion justified by original research (as described above) and descriptive statistics or comparative tabulation if applicable.
- A recommendation for application of the author’s conclusion, as well as further study or research.

The EAB has nominated 60 candidate reviewers. The list of candidate reviewers includes representatives of all graphic arts areas of study from all parts of the globe. Jim Harvey and I are now working on confirming reviewers. On September 6th the EAB will meet at Print ’01 to review design concepts and a collection of other journals to decide upon format, layout, and image. We will also hear a couple of publishing support proposals and decide upon a schedule and milestones for a rollout campaign. The TAGA Board has already decided to make the Journal of Graphic Technology an integral TAGA membership benefit and projects that it will have a significant impact on TAGA membership over the next three years. At the October Board meeting in Stockholm, the Board will finalize the operating budget and rollout plan for the Journal of Graphic Technology.

The Journal of Graphic Technology is a major new program for TAGA, and we are excited about providing this new service to TAGA members and the graphic arts community. Check out the Peer Review Operating Procedures and Guidelines at www.taga.org and consider whether or not your current research is an appropriate subject for a peer-review paper submission. We hope you will spread the word to your peers and perhaps be part of our inaugural edition of the Journal of Graphic Technology.

TAGA 2002 ASHEVILLE: Are You Part of the Solution?  
continued from page 3

“sweet spot” of a press. Can we optimize that sweet spot for higher quality without sacrificing consistency and control? How much more control do we have when operating at the sweet spot? How do supplies and materials interact to affect that sweet spot? These concerns will guide studies that will be reported in this track. If any TAGA members wish to participate in this effort, please e-mail Miles Southworth, track moderator, at MFSouth@aol.com.

PEER REVIEW TRACK

Selected authors whose papers have been accepted by the Journal of Graphic Technology (See http://www.taga.org/journalgraphitech/index.html) will be invited to present their papers in detail in this track. Dr. Anthony P. Stanton of Carnegie Mellon University will chair this track and will work with Jim Harvey and the Journal of Graphic Technology editor, Dr. Juanita Parris of Sun Chemical, to select papers for this track.

ADVANCED ENGINEERING TRACK

This track will be dedicated to computer-integrated manufacturing topics as well as development and application of microelectronic mechanical devices (MEMS) to printing systems. Topics may be as diverse as applications of the Job Messaging Format, predictive on-press diagnostics, E-ink or E-paper engineering, or engineering materials with MEMS constructs.

ADVANCES AND ALTERNATIVES IN COLOR SCIENCE

Conventional color measurement and management techniques have been poorly adopted and implemented for the most part. This track will be dedicated to looking at alternative color models and color management methods and will also focus on methods of optimizing the color management environment for users.

If you are interested in submitting an abstract or participating in any of these specialty tracks, please contact me at TAGAOfc@aol.com. All abstracts are due not later than October 31, 2001. We look forward to an exceptionally exciting ATC and hope that you’ll decide that you are part of the solution!
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Membership Level Criteria: Contributions with total value of $5,000 or more in goods/services/cash to TAGA in 2000–2001
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TECHNICAL ASSOCIATION OF THE GRAPHIC ARTS
68 Lomb Memorial Drive
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Phone (716) 475-7470 Fax (716) 475-2250 Visit our Web Site at http://www.taga.org