his year's conference will be held in New Orleans, Louisiana. We have had excellent participation in submissions for abstracts for the conference, and we are looking forward to another program packed with new sessions and the latest results in research and technology.

When you join us for the conference, don’t forget your appetite and be sure to put your diet on hold. New Orleans has been named the best city to dine in the United States by several top rated travel and leisure magazines and websites. With more than 3,000 restaurants to choose from and unique styles of cuisine like Creole and Cajun, you will not go hungry in this town. It is also listed as one of the best places in the country for live music and jazz, and New Orleans is renowned for its local artists, festivals, and craft exhibits. During the TAGA conference, we hope you take the time to visit the lively and revival city of New Orleans.

First-time visitors are often struck by the European flavor of New Orleans, and no wonder. Louisiana was claimed for French King Louis XIV in 1699 and is the only state that was once a French royal colony. La Nouvelle Orleans was founded in 1718 and was ruled by France and then Spain for nearly 100 years. It is the only U.S. city where French was the predominant language for over a century.

The city has more than 35,000 buildings listed on the National Register of Historic Places, more than any other U.S. city. Washington, D.C., the closest contender, has just over 20,000. Many are located in the 10-square-block area known as the French Quarter. St. Louis Cathedral, the oldest active cathedral in the United States, was originally built in 1724 and rebuilt twice after a hurricane and a fire. The present church overlooking Jackson Square in the heart of the French Quarter was dedicated in 1794. The Old Ursuline Convent, also in the Quarter, dates to 1745 and is the oldest building in the Mississippi River Valley. As Americans settled here, they built beautiful antebellum mansions in the Garden District and Uptown and a streetcar line that is the oldest continuously operating rail system in the world.

Mark your calendars now and begin to make your travel plans. TAGA has arranged for a discounted rate at the historic Hotel Monteleone. For more details and to register, please go to www.taga.org.
Since economics are on everyone’s mind, I want to take this opportunity to lay out the value proposition for being a member of TAGA. What is the value of a TAGA membership? This simple question has many answers. I can speak to three of them personally. On the others, I would have to speculate, and, in this economic climate, I will choose not to do that.

As a student (which I was when I joined TAGA in 1979), TAGA membership is a no-brainer. The money that you spend on TAGA dues would be a discount price to pay for the Proceedings alone. But you get much more than the Proceedings; you also have the opportunity to attend the Annual Technical Conference where you can interact with some of the most revered thinkers in our industry and attend two and a half days of technical presentations on cutting-edge research. The papers given at TAGA do not represent the latest trends in our industry; instead they present the upcoming industry trends and point the way to the future developments of graphic media. Are they always right? Of course not, but our 60-year history clearly demonstrates that they are often ahead of their time in predicting the future developments in our industry.

Furthermore, students have a unique forum in which to interact with other graphic technology students from around the globe. They share ideas, compare notes, compete for awards, and socialize with like-minded students whom they would otherwise not have met. The best part of this value proposition is that students pay only about 25% of the costs that are incurred in having them attend the conference. The rest is subsidized by the broader membership. The professional members of TAGA assume this burden for both altruistic and selfish reasons. In the first instance, TAGA members sincerely want to see bright, talented young people get involved in a career path that will be challenging, rewarding and beneficial to society. In the second instance, TAGA members value the perspective of the students who attend our conferences. We are overwhelmed by the sophistication and talent they display in their school publications and in their submitted papers. We benefit from their optimistic, open-minded view of the graphic landscape.

The value of TAGA is also clear for researchers, which I was for GATF for 12 years starting in the mid-1980s. It guides and informs your research in more ways that can be enumerated in this forum. It provides a network for collaboration and strenuous review of your work. TAGA brings together researchers from multiple disciplines, giving you a broader appreciation for the field you are studying and a network of contacts who will help you through roadblocks that you were facing. I heard it said 30 years ago that Graphic Arts was the most interdisciplinary industry in existence. Graphic Arts relies on the work of engineers, chemists, artists, computer scientists, information technologists, machinists, and entrepreneurs, among others. The advantage of TAGA is that all of these and more disciplines are represented within our membership. This diversity of disciplines brings the added value of representing many regions of the globe. I value very highly the perspective and opportunities I have gained from the exposure to colleagues from around the globe.

The value of TAGA is also high for educators, which has been my profession for the past 12 years. Again, the opportunity to interact with other educators from a variety of institutions and many nations is hard to put a price on. These interactions provide the educator-members with everything from new instructional techniques to greater understanding of the programs and curricula of other institutions. The network of educators that you make through TAGA provides a resource for collaboration and exchange of resources and support that are sometimes not available on your own campus.

The further value of becoming friends with leading industrial researchers, equipment and material suppliers, and exemplary printers from commercial presses, newspapers, packaging, and magazines informs educators of the real issues and state of the art in complex and rapidly changing technologies.

This is the value of TAGA from the perspective of one member. I have no doubt that there are many other value propositions that could be given from other perspectives. For me, TAGA has always been a bargain. I feel that I have gotten a lot more from the organization than it has cost me. I hope that is the case for many of you who receive this newsletter. Between us, we need to continue to spread the word about this unique organization, whose very strength is its diversity. And yet, an organization unified by a common passion of all the members for graphic media and a desire to help shape the future of this essential, modern, yet ancient method of communications.
LinkedIn group continues to grow

Now more than 250 members strong, the TAGA LinkedIn group is becoming a diverse network of professionals, educators, and students united by their involvement in the graphic technology industries. Several members have already used this powerful resource to post questions, seek information, and request input for developing other successful TAGA programs.

If you haven’t already, we encourage you to join the TAGA group and get connected with other TAGA members and industry colleagues. Joining the LinkedIn group will allow you to find and contact other TAGA members, help the TAGA staff keep up to date with changes in your career and contact information, strengthen the membership and relevance of TAGA, and accelerate careers and business through referrals from TAGA group members.

Many of these activities formerly took place in person, perhaps annually, at events and conferences. These days, budgets are tight and most people are traveling less and are busier at work. Online venues such as LinkedIn can supplement less frequent face-to-face meetings by keeping your professional network alive and fresh!

“I recently changed jobs myself, and personally have found that LinkedIn is a fantastic way to make sure everyone knows where you’ve gone and what you’re doing to stay connected,” said Chuck Gehman, TAGA’s Vice President, Membership/Publicity.

Beyond the great industry, professional, and TAGA-related benefits, it’s good to know that LinkedIn now has a membership of more than 23 million people worldwide and its dedicated focus is the professional network—something that everyone can use in today’s fast-moving business world. If you are employed by a large company, you can even use it to more easily find colleagues at your own employer! And with LinkedIn, you won’t be spammed to death; you only see invitations to connect or other communication via the site itself and occasional updates and news from TAGA.

For those of you in Europe, LinkedIn is at the very beginning of a major European expansion. They also plan to add more features to the “groups” functionality, and TAGA plans to take advantage of those features as they are released.

To join the group or to encourage another TAGA member or colleague to join, visit www.linkedin.com/e/gis/72202/299825406CB4.
The TAGA Journal of Graphic Technology

Currently in its fourth year of production, the TAGA Journal of Graphic Technology is a peer-reviewed journal designed to meet the needs of the global professional graphic applications industries in the further development of printing as a manufacturing process. Graphic applications play major roles in the reproduction of quality images, packaging, and in the volume manufacture of products, such as electronics and nanotechnology. The TAGA Journal of Graphic Technology embraces the fundamental science and technology, application and technology transfer, and the generic problems and experiences associated with the management and implementation of graphic applications.

The value of the new and original work published in the TAGA Journal is assured by the nature of the peer-review process, which provides an independent, anonymous expert assessment of the quality of a submitted article. It ensures the highest standard for a technical paper, which has become synonymous with the TAGA Journal of Graphic Technology.

The objective of this new series of articles is to review papers within the TAGA Journal of Graphic Technology to provide an insight into the new cutting edge research that is available to TAGA members. In 2009, all active TAGA members will receive the digital version of each edition as it is released. A digital subscription is available for non-TAGA members. Digital and printed copies of each completed volume and individual articles are also for sale. For ordering information and a complete article listing, please visit www.taga.org/bookstore or contact tagajournal@printing.org. Volumes 1 to 4 of the Journal are available for purchase from the TAGA office, with the complete list of papers on the TAGA website, www.taga.org.

TAGA would like to thank Dr. Tim Claypole and all staff at University of Wales Swansea for their unstinting work with the TAGA Journal of Graphic Technology. Swansea Printing Technology Ltd. took over the publication in 2005, ensuring the survival of the TAGA Journal as the only peer-reviewed publication for printing science and technology. Since this time TAGA has recovered its strength, delivering one of the premier Annual Technical Conferences for its graphic applications. With this the TAGA office, now successful under Printing Industries of America stewardship, is in a position to run the Journal. Our thanks are to the authors who have submitted their work and the reviewers who have ensured the quality of the Journal.

One of the recent papers published was “Effect of Drying Temperature Profile and Paper on Mechanical Print Quality in Heatset Offset Printing” by Timo Hartus. This is the focus of this issue.

During offset printing, viscous ink is transferred onto the printing plate through a train of rollers to form a thin ink layer. Heatset inks set differently than sheetfed inks and have additional parameters on drying. Heatset offset printing provides flexibility and added value to print on coated papers, as well as improved quality on newsprint. In the heatset process, the setting and drying of the ink is promoted by applying surface heat to the print. Both coated and uncoated paper grades are used, and the paper plays a significant role in defining print quality. However, less work on ink gloss and print rub has been done for heatset prints compared to coldset.

Due to the high speeds increasingly being used in heatset offset printing, the degree of drying of the print has become a most important question. To avoid problems such as smearing of prints, evaporation has to be as fast as possible. The roughness of the paper greatly determines the roughness of the print. Print roughness largely determines the final print gloss level. The gloss of a print is strongly dependent on the underlying paper roughness. Ink setting and ink drying on paper play important roles in determining the tendency for smearing of the print, either in terms of setoff or in print rub, and these are important quality characteristics to be assessed.

The purpose of this study is to explain the impact of different paper grades and dryer temperature profiles in the print drying stage on print quality and fixing degree (adhesion and hardening) in the heatset printing process. In this paper, the mechanical surface strength properties of offset prints were studied from six different papers and three different heatset drying temperature profiles. The most common types of uncoated and coated papers used in the heatset offset printing process were included in this research.

Print gloss, roughness, and abrasion resistance were investigated. Roughness values were measured both using the Bendtsen method, and the possibility was investigated to characterize paper and print surface evenness by a modified print tack measurement application. The method for predicting surface evenness by print tack measurements using tack-oil as an inter-medium proved to be useful for defining the surface strength parameters in terms of contact forces. The connection between contact evenness and print or paper gloss has been demonstrated.

The gloss of the dried prints compared to the gloss of the corresponding paper increased predictably. However, as shown by Marttila [1], high drying temperature diminished the gloss level of prints on uncoated papers, related to an observed roughening of the surface made up of the fiber mat. In the case of coated papers, the gloss level of prints increased slightly as a function of drying temperature and exhibited diminished post-print roughness, indicating either the insulating nature of the coating or its base paper isolating property in respect to ink diluents.

Gloss of studied papers and prints (P means unprinted paper before printing, A, B, C refer to the printer dryer heating profile).

Abrasion resistance of the prints increased on uncoated paper grades as the heatset drying temperature rose. The greater surface roughness value predictably also slightly increased the smearing tendency compared to coated print surface in the rub tests, despite the lower overall values of ink transfer. The prints on coated papers had some poorer abrasion resistance when they were dried at high drying temperature than when they had been dried under lower drying temperature. Abrasion resistance is dependant on developed interactions between ink and paper or paper coating. Paper surface structure is one important factor in adhesion of ink on paper. Rough surfaces have greater surface area for good mechanical fixing. The bonding of paper coating onto base paper has to be stronger than the adhesion of ink to the coating to prevent delamination at the coating base paper interface. Neither paper nor print roughness/evenness provided an unequivocal estimate of print abrasion resistance.

If heatset drying temperature is too high, it can cause too low residual solvent content, and ink film becomes too hard and rigid. Too rigid an ink layer seems to weaken the mechanical strength between ink and paper, or the paper coating layer, and, in this case, mechanical failures between the layers can occur easily under small stress. In the case of coated papers, this failure can be between ink and paper coating. Also fiber roughening became a reason for poorer abrasion resistance in the cases of some hard-dried prints.


For more information about the TAGA Journal or to submit a paper for peer-review, visit www.taga.org or contact tagajournal@printing.org.
The European Graphic Arts Scene
Submitted by Björn Kruse

Current Outlook
After drupa, when it’s back to business as usual, one may wonder about the long-term outlook for the European printing industry.

The printing industry is considered by the European Union Commission to be a forest-based industry, making up one-third of these companies and its employees, and boasting total earnings of nearly €100 billion.

Unfortunately, the European printing industry is currently in a rather problematic state, faced with the difficulty of competing with non-European companies, particularly those from Asia, due to overcapacity, standard products without added value, and a low level of consolidation, among other reasons.

In an effort to address this issue, IARIGAI—a world-wide non-profit association serving the research institutions in the fields of information, media, and graphic arts industries—organized an April 2008 meeting in Dreieich, Germany to discuss European competitiveness and cooperation.

In a similar attempt to improve the situation, Intergraf, a confederation for the printing and allied industries, is preparing the “European Graphic Industry Action Plan” with one of its key issues being to develop a European research and innovation network.

The action plan includes educating the workforce, better standardization, coordinating research and innovation efforts, and improving the public image of the industry.

Recent Events
The 35th IARIGAI conference has been held in Valencia, Spain, hosted by AIDO - Asociación Industrial de Óptica, Color e Imagen. As usual a wide display of ongoing research and development was presented. The conference covered interesting topics from halftoning, printed antennas, and electronics to business models. The program can be found on http://www.iarigai.org/va//encia/strat_start.html.

Trends
There continues to be great interest in printed electronics in most European countries. For example, printing-related research in Sweden has been funded to commercialize electronics printing. Linköping University and Acreo, a contract R&D lab for electronics, optics, and communication technology, have joined forces in this printed electronics arena.

There is also renewed interest in the basics of paper optics and image reproduction on paper, which is highlighted by the funding of a five-year joint research program between Mid Sweden, Karlstad, and Linköping universities and STFI-Packforsk.

Send us your news!

We want to hear what your student chapter has been up to. Send your news to taga@printing.org for inclusion in upcoming newsletters and on the TAGA website.

Student Chapter News
www.taga.org/students

2009 Student Competitions
With the 61st Annual Technical Conference in New Orleans less than five months away, now is the time to begin thinking about your entries for the 2009 TAGA student competitions and poster exhibition. Complete details, guidelines, and deadlines for each category are available online at www.taga.org/students.

Remember: You must be an active TAGA member to participate; entries from non-members will not be accepted. For more information on becoming a student member or starting a TAGA student chapter, please visit www.taga.org/students or contact taga@printing.org.

Helmut Kipphan Student Chapter Publication Competition
The student publication is intended to be a collection of student research in the associated areas of graphic technology, which is produced primarily by the students of the institution. The publications will be judged on Technical Writing, Publication Design, Production Quality, and Overall Quality to select the best publication. This Grand Prize winner will be awarded the “Helmut Kipphan Cup,” a traveling trophy inscribed with the school names and years of all previous winners. Any institution with a TAGA student chapter is encouraged to participate.

Dusty Rhodes Graduate Student Paper Competition
The purpose of the TAGA Graduate Student Paper competition is to encourage and promote scientific research and scholarship in graphic arts to all graduate students. Papers submitted should be focused on graphic arts technical research that took place during 2008. The winning paper will be published in the 2009 TAGA Proceedings, and the author will receive a complimentary registration for the 2010 annual technical conference with the opportunity to present his/her paper. The number of papers in competition is limited to two per chapter, so it is advisable that each chapter review possible submissions for the best candidates.

Harvey Levenson Undergraduate Student Paper Competition
The purpose of the Harvey R. Levenson/TAGA Undergraduate Student Paper Competition is to encourage and promote scientific research and scholarship in graphic arts to all undergraduate students. Papers submitted should be focused on graphic arts technical research that took place during 2008. The winning paper will be published in the 2009 TAGA Proceedings, and the author will receive a complimentary registration for the 2010 annual technical conference with the opportunity to present his/her paper. The number of papers in competition is limited to two per chapter, so it is advisable that each chapter review possible submissions for the best candidates.

TAGA Student Poster Paper Exhibition
The Poster Paper Exhibition is intended to encourage interaction between industry members and student members. A TAGA Student Poster Paper is an exhibit of an original research project, submitted by either a graduate or an undergraduate student, in poster format. The poster paper is presented in a display area during the 2009 TAGA Annual Technical Conference and should be technical in nature and relevant to the field of graphic arts. No commercialism is allowed. At least one of the authors must be present at the conference to be eligible to exhibit. The Student Poster Paper Exhibition is non-competitive; however, an abstract of the paper must be submitted to TAGA for acceptance prior to the conference. All poster papers accepted for display will be included in the 2009 TAGA Proceedings.
Membership

TAGA Board of Directors Adds a Fifth Membership Category

After recognizing a need to promote greater participation from educators in TAGA and to further encourage their involvement in the Annual Technical Conference, the TAGA Board of Directors unanimously approved a motion to add “Educator” as its fifth membership category.

“The long-term survival and development of the TAGA organization is dependent on the participation from academia, especially from those in the specific area of graphic arts education,” said Eric Neumann, TAGA’s Education Chair. “For educators, active membership in professional organizations such as TAGA provides great benefits to their professional career and the education that they provide to their students. Many professional associations offer discounted membership rates in order to allow greater membership by academia.”

Effective beginning with the 2009 membership year, Educators, classified in the TAGA Bylaws as “a full-time faculty member of an appropriate discipline at an accredited institution,” will be offered annual TAGA membership dues of $75 versus the professional rate of $125.

Join or Renew Today!

2009 TAGA Membership Includes:

- **2009 TAGA Proceedings** – a perfect-bound book of executive summaries (abstracts) of all the papers presented at the annual conference with a CD-ROM of full papers, color images, and complete proceedings.
- **TAGA Journal of Graphic Technology** – the digital version of Volume 5 will be distributed free to all members.
- Free subscription to the TAGA e-newsletter.
- Free subscription to Printing Industries of America: The Magazine – TAGA members have access to the digital version of this valuable resource, which includes both the current issue and archives of Printing Industries of America’s technical magazine.
- Discounts on back issues of the TAGA Proceedings. To order, visit the TAGA Bookstore at www.taga.org/bookstore.
- Access to other valuable resources on the www.taga.org website.

And as always, a valuable network for your professional activities. TAGA unites researchers from all over the world from a diverse set of disciplines related to graphic media. It is a source for learning, keeping abreast of advances in the industry, and testing and developing new ideas.

Membership Prices

- Professional $125 USD
- Retired $75 USD
- Educator $75 USD
- Student $40 USD

If you are interested in becoming a member or corporate sponsor of TAGA, please contact the TAGA administrator at 412-259-1706 or taga@printing.org for more information.

Bookstore

TAGA’s Entire Proceedings Collection Has Gone Digital.

The TAGA Proceedings contain the history of the printing industry from 1949 to the present and are now an even more ready source of Graphic Arts R&D with the release of a second DVD anthology. Following a unanimous Board vote and through the pledged commitment of several TAGA members, the 1949–1974 Proceedings have been digitized and are now available for purchase. This DVD of the early years of the organization, when combined with the 1975–2005 DVD and the CDs of the most recent Proceedings, completes TAGA’s digital collection.

Both DVDs offer keyword search engine capability and include PDFs of the white papers published each year. To purchase your copy of either DVD, priced at $975 each, please visit www.taga.org/bookstore to download an order form or send your request to taga@printing.org.

Visit the TAGA Bookstore to place your order for books and other products at www.taga.org/bookstore.
Since 1948, TAGA, the Technical Association of the Graphic Arts, has served as the technical association for graphic technology, sitting at the forefront of development in the industry by uniting researchers and practitioners from all over the world. TAGA serves the CTO, CIO, and R&D management personnel of printers, publishers, and premedia companies, as well as engineers and scientists employed by graphic arts systems and equipment providers, ink manufacturers, and paper manufacturers. It focuses on graphic arts systems, software, and computer technology developments, as well as the more traditional areas of press, ink, and paper engineering applications.

TAGA is a source for learning, keeping abreast of advances in the industry, and testing and developing new ideas, both at our annual conference and beyond. The association maintains the industry’s best permanent set of technical papers and abstracts and provides guidance and support to its 15 active student chapters at the top printing schools around the world.

TAGA’s Mission: To provide a worldwide forum for sharing and disseminating theoretical, functional, and practical information on current and emerging technologies for graphic arts print production and related processes.
2008 Corporate and Conference Sponsors

TAGA would like to graciously thank and recognize the generous contributions of our corporate and conference sponsors who support the conference and organization.

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If you are interested in becoming a sponsor for 2009, please contact Gwen Martin at gmartin@printing.org or taga@printing.org for further details.

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