1999 Coating and Graphic Arts Conference

TIMOTHY WHELAN

Scenes from the Interactive Sessions

The TAPPI 50th Anniversary of the Coating and Graphic Arts Conference, held May 2 to May 5, 1999, attracted 1050 registrants to the Sheraton Centre in Toronto, Canada. The focus was on "50 Years of Science & Technology, Adding Value to Coated Grades Worldwide." Many companies brought forward the history and accomplishments that the Division has made internationally. Conference participants from over 10 international locations addressed topics and issues covering market trends, historical perspectives, coating equipment, printing, hot soft nip, calendering, digital photography, coating and raw material sciences and advances in coating rheology. There were 18 sessions and 57 papers including a New Technology Showcase. The 6 Roundtable Sessions, and particularly with the 2 Interactive Sessions on Printability and Coater Runnability stimulated questions and a lively discussion on problem solving. The conference met twin objectives of being pragmatic with immediate utilization of acquired knowledge from meeting and of contributing challenging science and technology.

More than 90% of the papers presented were done with laptop computers and PowerPoint presentations. The Roundtable and Interactive Sessions were at the forefront of presentations getting practical knowledge out of the conference. Over and over again conference organizers have tried to adapt sessions for the end user, questions arise, "How can I use this information when I go back to work?" One solution to this question was the "Interactive Sessions," new to the coating and graphic arts division and just what participants wanted. Every division tries to extend its impact on the Industry and this year the practical information shared in the new interactive sessions was just one example.

Attendees took advantage of the socializing and networking opportunities during the newcomers' breakfast, reception, awards luncheon and in the central Hospitality center. As one attendee stated, "It is good to meet new people and even better to see old friends."

Amidst all the excitement of seeing old friends and thoughts of years past, were 66 companies exhibiting at this years Coating and Graphic Arts Trade Fair.

The new Technology Showcase was co-chaired by Jan Walter of Ronningen-Petter Company, and Hans W. Maurer. There were 13 exhibitors present at the Technology Showcase from the United States, Canada, Sweden and Germany.

HISTORY

The conference banquet started the event. Division Chairman James R. Weber of Shasta Paper Company began by welcoming everyone and thanking them, in advance, for making this one of the best conferences this year. The past and present TAPPI Presidents Dale R. Dill of Dill Technologies Inc. and Richard G. Barker gave a warm welcome and congratulations to the delegates, as well. Special recognition was paid to Robert Hagemeyer, one of the most honored men of the Coating and Graphic Arts Division, who was represented at

Jim Weber, John Hagemeyer, Jack Callahan

the conference by his son, John Hagemeyer. Hagemeyer one of the founding fathers of the Coating and Graphic Arts Division,as well as the Fundamentals Committee. He has given over 45 years of service to the Coating Divisions. He is also the only TAPPI member to win both the Gold and Silver Awards.

*The Gold Medal (now the Gunnar Nicholson Gold Medal) recognizes his pioneering research in pigment particle packing, precipitated calcium carbonate (PCC), and the applications of his findings into new products for the paper industry.

The Distinguished Service Award (Now the Herman L. Joachim Distinguished Service Award) recognizes his relentless drive to disseminate ideas and information throughout the industry and his loyal service to the Association. Bob has authored numerous papers on PCC, coated papers, and related technology. He is a contributing author/editor to four TAPPI PRESS books of the Paper & Pulp Manufacturing series. He edited Volume 6 and participated in the revision of Volume 8. He has authored the book "Pigments for Paper" which is currently for sale by TAPPI PRESS. (item number 0102B062. www.tappi.org) See the May 1999 TAPPI JOURNAL for the 50 year history of the Division.

AWARDS SECTION

Nick G. Triantafillopoulos, technology manager, advanced development,Omnova Solutions (formerly GenCorp), was named the recipient of the 1999 TAPPI Coating and Graphic Arts Division Technical Award. In addition to the award, Triantafillopoulos received the Charles W. Engelhard Award, which carries a US$ 1000 honorarium made possible by a gift to TAPPI from Engelhard Corp.

Triantafillopoulos has given several research papers at TAPPI conferences and local sections, and he has served on the Coating Fundamentals, Coating Binders, and Fluid Mechanics Committees. He has presented tutorials on coating technology and coating rheology at the national and international levels. He chaired the 1991 Advanced Coating Fundamentals Symposium and the 1997 Binders Short Course. He has been a session chair of TAPPI Coating conferences and a member of the Technical Program Committee of the TAPPI Coating Conference and Advanced Coating Fundamentals Symposium since 1993. Currently, he serves as the chair of the Coating Fundamentals Committee and the Promotions Committee of the Coating and Graphic Arts Division.

Triantafillopoulos has published and co-authored over 40 papers and three patents, and he currently holds the position of adjunct faculty at the Department of Chemical Engineering, University of Maine, Orono, ME.

Robert E. Klem, vice president, technology of J. M. Huber Corp. in Macon, GA, was awarded the 1999 TAPPI Coating and Graphic Arts Division Leadership and Service Award. In addition to the award, Klem received the Protein Technologies International Medallion, which carries a US$ 1000 honorarium made possible by a gift to TAPPI from Protein Technologies International, Inc.

Since joining TAPPI in 1977, Klem has been very active in the Coating and Graphic Arts Division. He cofounded and chaired the Coating Fundamentals Committee and the Technical Trends Committee. A past chairman of the Coating and Graphic Arts Division, he also chaired the Binders Committee and the 1990 Coating Conference.

William Skaggs, Nick G. Triantafillopoulos, Robert E. Klem, Thomas Krieg

With an extensive background in coating science, Klem has authored patents on novel starches and pigments, and he has published on a variety of topics such as starch binders, starch conversion equipment, insolubilizers, and papermaking pigments.

Additional awards

Special Certificates of Appreciation were presented to:

- Terry L. Clark, Mead Coated Board Inc.
- Cyrus K. Aidun, Institute of Paper Science and Technology
- Joseph M. Fernandez, Potlatch Corporation
- Paul T. Streeter, Hopton Technologies

The Best Student Paper and Louis Georgevits Memorial Prize was presented to Annaleena Kokko for the paper, "The Influence of Elongational Viscosity on Coat Weight in Paperboard Coating with a Smooth Rod."

The 1998 Coating Conference Best Paper went to J. W. McCoy, Dow Chemical Company for the paper, "Metallographic Preparation of Coated Papers for Backscattered Electron Imaging of Coating Structure in Cross-Section"

* (TAPPI J., 78[3]:36 [1995])

Certificates of Appreciation were also given to the following Outgoing Committee Chairmen:

- James T. Brown, Chairman Coating Pigments Committee
- Richard E. Gagnon, Chairman Fillers and Pigments Testing Committee
- Margaret K. Joyce, Chairman Coating Additives Committee
- George W. Lawton, Chairman Specialty Coated Papers Committee
- Donald I. Lunde, Chairman Printing and Imaging Committee
- Thomas B. Merrifield, Chairman Coating Binders Committee
- Lora J. Murray, Chairman Coated Paperboard Committee
- Gordon L. Stout, Chairman Basestock Committee
- Nolan H. Thompson, Chairman Technical Trends Committee
- Bernard W. Wolff, Chairman Coating Process Committee
- Nick G. Triantafillopoulos, Chairman Coating Fundamentals Committee

Certificates of Recognition were presented to:

- Charles L. Burdick, Hercules Inc.
- Wayne A. Kibble, Alco Chemical
- James S. Watson, Rohm & Haas Company
- John A. Roper, Dow Chemical USA
- Shin Lee, GenCorp
- Mark A. Sorenson, Kusters Beloit L.L.C.
- Anthony V. Lyons, ECC International
- Rex A. Robertson, Valmet

1999 COATING & GRAPHIC ARTS PROCEEDINGS AVAILABLE

The proceedings are available in book format or on CD-ROM.

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NEXT COATING & GRAPHIC ARTS

The 2000 Coating Conference and Trade Fair is scheduled to be held May 1-4 at the Marriott Hotel, Washington, DC. The conference program will cover current trends in U.S. and international markets, new printing technologies, metered size presses, novel coatings for new imaging processes, new coating structures and properties, sensors and automation, process variability analysis, optical properties, technical advances in coated paperboard manufacturing, web offset blister resistance, high-speed runnability of blade coating, and coating adhesion. Technical program chairman for the 2000 meeting is Steven P. Ottone, Reichhold Chemicals, Inc., 2400 Ellis Rd., Durham, NC 27703-5543, telephone: +1 919 990-8061, fax: +1 919 990-8263, email: steve.ottone@reichhold.com.

For more information about the 2000 Coating Conference or to order proceedings call the TAPPI Service Line at 1 800 332-8686 (U.S.), 1 800 446-9431 (Canada), or +1 770 446-1400 (international) or see www.tappi.org.

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Newcomers Breakfast

5TH ADVANCED COATING FUNDAMENTALS SYMPOSIUM

An Advanced Coating Fundamentals Symposium was staged in Toronto prior to the annual Coating Conference. Previous symposia were held in Montreal, Canada (1991), Minneapolis, MN (1993), Dallas, TX (1995), and Philadelphia, PA (1997).

This event has steadily grown over the years in both number of papers presented and attendees. This year's symposium drew more than 200 participants (43 % from overseas) with an about equal share from industry, academia, and suppliers. Large contingents came from Scandinavia, Canada, and Japan.

The Advanced Coating Fundamentals Symposium was developed in response to the increasing cooperation between the coated paper industry and academic institutions. The previous accommodation of papers from academia in the technical program of the coating conference had enhanced a theoretical orientation and caused criticism by attendees from the industry. Now most papers, which address basic issues, are presented prior to the conference in the symposium. This arrangement has strengthened the commitment of the coating conference to the more practical interests of its participants, while maintaining the required attention to fundamental aspects of the coating process.

The 1999 Advanced Coating Fundamentals Symposium was chaired by Professor Cyrus Aidun of the Institute for Paper Science and Technology. The technical program was developed in close cooperation with Dr. Nick Triantafillopoulos, Chairman of the Coating Fundamentals Committee of the Coating & Graphic Arts Division, a group of committee members, and the Technical Program Committee for the Coating Conference. Dean Benjamin (Consolidated Papers Inc.), Doug Bousfield (University of Maine), Nick Triantafillopoulos (Omnova), and Hans Maurer chaired the technical sessions. A large poster session provided an opportunity for the in-depth discussion of new developments.

The discussion themes of the symposium were defined in three keynote presentations:

- Recent Advances in the Rheology and Rheo-Optics of Colloidal Suspensions (Professor Jan Mewis, University of Leuven, Belgium),
- Interactions between Charged Colloids and Polyelectrolytes (Professor Joachim Kötz, University of Potsdam, Germany),
- Printing Technologies, Papers, and Research: The Challenges (Dr. Patrice Mangin, CTP, France).

The classical methods for determining the shear rheology at steady state are not sufficient to characterize the performance of a coating color or printing ink under the conditions of rapid acceleration, elongation, shear, and relaxation. Contributions at the symposium dealt with the dynamic rheological properties of coating colors and their influence on the operation of film presses, misting from a nip, structure formation in the coating, and elongational viscosity during coating application and coat weight control. Fundamental contributions addressed the dewatering of coating colors, fluid transport into porous materials, and the viscoelasticity of printing emulsions.

Coating colors are complex mixtures that contain at least twice the number of ingredients than stated in the recipe. Pigments are accompanied by dispersants, latices are stabilized by surfactants, starch and polyvinyl alcohol require defoamers, and water brings with it hardness and dissolved salts. Most of these adjuncts carry specific levels of charge; some of them contribute hydrophobic interactions. Thus, a consideration of all possible interactions may be required in order to solve a coating problem. Speakers at the symposium reviewed the effects of associative thickeners, wax addition, and various latex dispersions on coating properties. The influences of coating composition and -structure on the compression behavior during calendering, coating stiffness, and roughening after re-wetting were described. Atomic force microscopy, cryo-porometry, and laser-induced plasma spectroscopy were proposed for coating analysis.

The printing industry is rapidly moving from a world dominated by offset and gravure printing to diversified, non-impact technologies, where color, digital processing and water based inks are key factors. Future trends point towards an integration of digital printing with classical printing on the same press. The design of a multi-purpose, coated paper has to balance smoothness for gravure printing and surface strength for offset printing with water resistance for ink jet printing and heat resistance for electro-photographic printing. New printing technologies, such as electro-coagulation printing pose new challenges. Presentations at the symposium dealt with the interaction of paper with water, surface topography characterization by laser, and the penetration of water and ink vehicle into pigment aggregates and consequences for print mottling.

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