



52nd Annual Technical Conference

Ink - Materials and Technologies



for a Sustainable Future

September 23 - 25, 2008

Loews Ventana Canyon Resort

Tucson, AZ

Ink-Materials & Technologies for a Sustainable Future

Tuesday, September 23, 2008

OPENING OF TECHNICAL CONFERENCE (1:30 - 5:00 pm)

Technology's Role in the Business Plan

Jeff Koppelman, Gans Ink & Supply Co., Inc.

This year's Ault Award winner and President of Gans Ink & Supply Company will provide his perspective on technology and how it contributes to a diversified business plan.

Sustainability Overview

Allen Marquardt, Kimberly-Clark Corp.

This presentation will focus on Kimberly Clark's Sustainability efforts and areas of focus. It will also cover the expectations of the Corrugated Packaging Council (CPC) and the interaction with ink companies on sustainability issues.

Packaging Sustainability

George Casper, Dopaco

This session will be an overview of some of the "green issues" impacting society and the packaging field with a brief review of terms in use and identification of some of the emerging trends in the fast food packaging marketplace.

Global Printing and Ink Markets

Diane Parisi, Flint Group

An overview of what has occurred in the printing and printing ink markets from a volume and dollars perspective in recent years. The market trends, emerging markets, where the applications are going (i.e. heatset, sheetfed, packaging, inkjet, etc.) and a summary of what that means to the ink and supplier base.

Wednesday, September 24, 2008 (8:00 am - Noon - Concurrent Sessions)

RAW MATERIALS SESSION

Pigment Supply

Craig Foster, Flint Group Pigments

Offset Resins

Tom Fontana, Arizona Chemical Co.

Water Based Resins

Rick Krause, BASF Resins

These three presentations will cover key issues of each raw material segment used in the printing ink industry including threats, challenges and opportunities from a sourcing, sustainability and environmental impact.

Energy Curable

Jo Grosemans, Cytec

The last few years sustainability has become a topic of increasing importance in the business environment. Some companies have started to implement the 12 Principles of Green Chemistry which impacts technology, raw materials, design and manufacturing of new products. How UV and water based UV materials offer ink makers and printers energy and environmentally friendly solutions will be discussed.

Sustainable Additives for the Graphic Arts Industry

Jeanine Snyder, Air Products & Chemicals, Inc.

One of the key issues challenging today's chemical producers is the development of new raw materials that positively contribute to the sustainability of the individual company and the markets they serve. This presentation describes how new surfactant chemistries can significantly improve environmental and economic performance for the graphic arts industry and aid in the conversion from solvent to waterbased printing ink.

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RAW MATERIALS SESSION—continued

Eastman Chemical's Journey in Sustainable Development of Raw Materials for Inks

Jos DeWit, Eastman Chemical Company

This presentation will include the use of clean, carbon-capturing technology that transforms coal, petroleum coke, and other plentiful domestic resources into chemical raw materials safely, efficiently, cleanly and profitably. Using renewable resources and lower photochemically active solvents will help the ink producer.

Eco-efficiency Analysis

Chris Bradlee, BASF Resins

This session is a summary of the short course which gave an detailed review of the BASF eco-efficiency analysis. This is a strategic lifecycle tool that compares the relative ecological and economic efficiencies of alternative products, production processes and technologies.

Wednesday, September 24, 2008 (8:00 am - Noon - Concurrent Sessions)

TECHNICAL DEVELOPMENT SESSION

Stability and Coalescence of Emulsion Polymers: Factors Controlling Product Stability and Film Formation in Water-Based Printing Inks

Lisa Fine, Flexo Tech

Emulsion polymers play an important role in the printing and drying of ink films. This paper explores the mechanisms of drying and coalescence and reviews the relationships that govern emulsion stability.

The Hidden Errors In Density Measurements Created by Local Spatial Variations

John MacPhee, Baldwin Technologies

This paper reports on various measurements that were made to learn more about local spatial density variations. Such variations can be readily detected when measuring the density of test images consisting of a presumed uniform solid or tint. The ramifications of the error introduced whenever measuring multiple sheets are discussed along with the question of what are the best sizes of aperture and test image to employ.

Green Approach to Digital Printing

Ross Allen, Hewlett-Packard Company

In response to the need for reducing the environmental impact of printing with digital processes, new water-based inkjet inks have been developed. These pigment-based inks use an innovative aqueous-dispersed polymer ("Latex") technology to provide outdoor print durability and display permanence comparable to solvent inks on a range of media without imposing the environmental, health, and safety impacts for organic solvents. This presentation explores the adverse technologies of the inks, print heads, writing system, and Optical Media Advance Sensor used in this new industrial printing platform.

Advances in Energy Curable Technologies

Rosalyn Waldo, Cytec

This presentation explores the ways that ultraviolet cured bioligomers, a newly developed class of acrylated oligomers, can be used in the major printing technologies including flexography, lithography and screen printing.

Engineering Ink Color via Emulsion Design

David Schatz, Timothy Klots, BASF Resins

Chromatically selective scattering emulsions (CSSE), in which particle size is controlled to generate a range of scattering behaviour, are described using both scatter and color theory. With these emulsions it is possible to generate almost any hue in an opacifying ink utilizing black pigment only. The composition of the CSSE can be adjusted to precisely control the response of the ink to temperature. This enables an ink to be designed which undergoes irreversible color change at almost any acrylic Tg of interest in response to environmental temperature changes.

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Thursday, September 25, 2008 (8:00 am - Noon)

CLOSING SESSION

GHS & Regulatory Update

George Fuchs, NAPIM

This presentation will discuss OSHA's integration of the Global Harmonization System into the Hazard Communication standard. A summary of other ink/printing related domestic and international regulatory issues will also be discussed.

Publication/Commercial Paper Sustainability

Denise Olson, UPM

Elements of a paper's life cycle fit together like the pieces of a puzzle and therefore, have to all be considered to see the "big picture". This presentation will review the two major forest certification labels (FSC and PEFC) and their pros and cons as well as the carbon footprint of paper and how to reduce it's impact on the environment. There will also be a review of the tools needed to evaluate environmentally preferable paper.

DRUPA Overview

Dave Savastano, Ink World—Rodman Publishing

This presentation will provide an overview and highlights of DRUPA for those that were unable to travel to Germany to see it first hand. Hear about the new technologies in the graphic arts industry that will impact ink makers and their suppliers.

EMERGING TECHNOLOGIES:

Nanotechnology Applications to Pigments & Inks

Mark Ortolano, Sun Chemical Pigments

Nanotechnology is a rapidly growing field with many interesting and novel applications. These range the gamut from self-cleaning fabrics to delivery systems for pharmaceuticals, and beyond. Nanoparticles are defined by their ability to impart unique properties due to very small size. The particles are less than 100 nanometers in all three dimensions and have a very high surface area relative to the volume. This presentation will cover some background on nanotechnology and current trends, with particular focus on organic pigments and applications to printing inks.

Printing Light Harvesting Biological "Devices" and other Functional Materials Applicable to Organic Photovoltaics

Jan Sumerel, FUJIFILM Dimatix, Inc.

Many processing steps in the manufacturing of organic photovoltaics require solution processing. Inkjet printing is a facile method for depositing solutions into patterned thin films. We will show patterned thin films of organic photovoltaic relevant materials including conductive silver used in cathodes, carbon nanotubes used as transparent conductors, conjugated polymers used in the active layer and quantum dots, band gap acceptor materials that also function in non-white light environments. Finally, this talk will discuss the impact of inkjet printing on the photovoltaic market and highlight the research efforts of leaders in this field.

Grinding & Dispersion Technologies—in the View of an Equipment Supplier

Kerstin Grosse, Buhler Inc.

This paper will cover the basics in existing and new grinding and dispersion technology and how to find the right equipment for the task on hand. The involvement and close cooperation with the equipment supplier can be beneficial to both parties as both have expertise in each of their respective fields. Also, it saves time and money if the ideal production solution is found quickly. The latest accomplishment in new grinding and dispersion technologies are presented as a result of the successful dispersion producer/equipment supplier relationship.



CONFERENCE AT A GLANCE

Pre Conference Events

Conference Chairman

Gerald Napiecek
Colorcon, No-Tox Products

Co-Chairman

Rich Czarnecki
Superior Printing Ink Co., Inc.

Raw Materials Session Moderator

Jeannette Truncellito
Sun Chemical Corporation/NA Inks

Co-Moderator

Mark Hill
INX International Ink Co.

Technical Development Session Moderator

Pete Notti
Ink Systems, Inc.

Co-Moderator

Kevin Kingman
Flint Group

Closing Session

Ronald Tarewicz
Colorcon, No-Tox Products

Co-Moderator

Jim Daniels
Apollo Colors, Inc.

Monday, September 22nd

1:00-5:00 pm	Registration
Noon-6:00 pm	NPIRI Board of Directors' Meeting
6:30-7:30 pm	NPIRI & NAPIM Directors' Reception*
7:30-9:30 pm	NAPIM Board Dinner*

Tuesday, September 23rd

8:00 am-Noon	NAPIM Board of Directors' Meeting
8:30 am-Noon	SHORT COURSES (concurrent sessions)*
	• Rheology, Theory & Applicability
	• Pigment Dispersion Technology
	• Eco-efficiency Analysis

Technical Conference

Tuesday, September 23rd

8:00-2:00 am/pm	Registration
Noon-1:00 pm	Buffet Lunch
1:30-5:00 pm	Opening Session
5:00-7:30 pm	Tabletops & Reception
	Dinner on Your Own

Wednesday, September 24th

7:00-8:30 am	Continental Breakfast
8:00 am-Noon	Raw Materials Session (concurrent)
8:00 am-Noon	Technical Development Session (concurrent)
1:00-6:00 pm	Golf Outing
7:00-10:30 pm	Reception & Awards Dinner

Thursday, September 25th

7:00-8:30 am	Continental Breakfast
8:00 am-Noon	Closing Session

* Registration is separate from Conference Registration fee.



REGISTRATION FORM
ENCLOSED

Hotel Room Block Closes August 29, 2008

Room Rates:

Single / Double - \$170*

Loews Ventana Canyon Resort
7000 North Resort Drive
Tucson, AZ 85750
Ph: 520-299-2020

* Resort fee has been waived.

Mention NPIRI Technical Conference to obtain these room rates

Registration \$150 (member & educational) - \$225 (non-member) is not included in the Conference fee

Concurrent Sessions - 8:30 am – Noon

Rheology Principles—Best Practices for Industrial Applications

Saeid Savarmand, Sun Chemical Corp.

A brief account of rheology principles is presented consisting of fundamental definitions, applications, functions and purposes of rheology in general with particular attention to the rheology of inks (and coating colors) and the limitations involved.

Pigment Dispersion Technology

Willie Henderson, Aveka, Inc.

A dispersion is defined as a system consisting of fine insoluble or only slightly soluble particles distributed throughout a liquid continuous phase. The particles distributed within the liquid continuous phase constitute the dispersed phase. This short course will discuss the important technical aspects related to creating successful pigment dispersions.

Eco-efficiency Analysis

Christopher Bradlee, BASF Corporation

An overview of the BASF eco-efficiency analysis which is a strategic lifecycle tool that compares the relative ecological and economic efficiencies of alternative products, production processes and technologies. Eco-efficiency analysis looks at the entire life cycle of a product which also provides an “ecological fingerprint” of these environmental dimensions:

- Materials consumption
- Energy consumption
- Emissions to air, soil and water
- Risk potential
- Toxicity potential
- Land use

Both ecological and economic factors are then used to compare two or more competing alternatives with respect to their total lifecycle eco-efficiency. This analysis tool is internationally certified and used for more than 10 years.

TUESDAY
September 23rd
(5:00-7:30 pm)

TABLETOP EXHIBITS

Suppliers of raw materials and instrumentation will be available for discussion of their products.

POSTER BOARD PRESENTATIONS

Sponsored by Lubrizol Advanced Materials, Inc.

Posterboards to be presented are:

“A Study on Gravure Cell Volume & Cell Characteristics on Ink Transfer”
Arizona State University

“Waterborne UV Inks & Overprint Varnish”
Cytec

“Parameters Affecting the Setting of Sheetfed Lithographic Inks”
Superior Printing Ink Co.

A reception will run concurrently in the exhibit area.

WEDNESDAY

September 24th – 7:30 pm

AWARDS DINNER

Toastmaster – Pete Notti, NPIRI President
Ink Systems, Inc.

Awards for TAM Service and Technical Achievement will be presented.

NPIRI PAPER COMPETITION

Sponsored by Hexion Specialty Chemicals

Selected from:

1. Engineering Ink Color via Emulsion
2. The Hidden Errors in Density Measurements Created by Local Spatial Density Variations
3. Stability & Coalescence of Emulsion Polymers
4. The Role of Forensic Ink Analysis in Questioned Document Examination: Historical Development and Future Directions.