



# 9<sup>th</sup> Annual Toner & Imaging Chemicals Conference

The Future of Toner & Imaging Raw Materials

**February 6-8, 2006**

Tradewinds Island Grand Resort  
St. Pete Beach, Florida

sponsored by

**Information Management Institute, Inc.**

Co-sponsored by

**Toner Research Services**

The **9<sup>th</sup> Annual Toner & Imaging Chemicals Conference - The Future of Toner & Imaging Raw Materials** will focus on the technology, market and applications challenges and opportunities that are facing the toner industry.

Dry and liquid toners have been integral imaging materials for over fifty years. These toners have evolved in properties, composition and production over that period. During the past fifty years, other imaging techniques have been introduced. Some of these competitors still exist as specialty imaging devices. However, only ink jet has proven to have the combination of image quality, economics and versatility to challenge toner-based imaging devices.

Improved print quality, expanding applications, higher resolutions, enhanced user expectations, etc. are all requiring improved toner based products to effectively compete in the digital printing marketplace. Additionally, the increased adoption of color digital printing, introduction of chemically produced toners, movement away from light lens based copiers, etc. are all placing new requirements on the toner industry. These improvements all require new or improved chemical raw material products to meet users' requirements as toner based imaging continues to evolve in a competitive marketplace.

This unique conference program, IMI's only program in 2006 focused on the toner and imaging chemicals industry, offers a unique opportunity for raw materials suppliers, imaging chemicals manufacturers, hardware developers and end users to join together and obtain a comprehensive assessment of the toner based imaging chemicals industry. In conjunction with IMI's **14<sup>th</sup> Annual Laser Printing Conference** on February 8-10, 2006 at the same location, there simply is not a better or more cost effective place to obtain the latest information defining **the future of toner and imaging raw materials**.

#### Conference Chairman

John Cooper, Toner Research Services

#### Conference Speakers & Panelists

Dr. Francis Chupka, Image Polymers  
Dr. Jeffrey Clark, Nashua  
Dr. Lode Deprez, Punch Graphics  
William Dowden, Clariant  
Graham J. Galliford, Galliford Consulting  
Dr. Eric G. Hanson, Hewlett Packard  
Dr. Gordon Hardy, Hunt Imaging  
Dr. Michael A. Hopper, Copperas Consulting  
Bill Hutcheson, Powdertech  
Dr. Christopher Johnson, Mitsubishi Chemical  
Cortney Kasuba, Lyra Research  
Dr. Hendrik Kathrein, Lanxess  
Dr. Trevor Martin, Tmart Consulting  
Peter Mason, Torrey Pines Research  
John Shane, InfoTrends/CAP Ventures  
Eugene Step, Cabot  
Dr. Dinesh Tyagi, NexPress  
William Williams, Cabot  
Elizabeth Yuan, Baker Petrolite Polymers

# 9<sup>th</sup> Annual Toner & Imaging Chemicals Conference

**Monday, February 6, 2006**

11:00 a.m. Registration

1:30 p.m. **Opening Session  
Technology & Market Issues**

## WELCOME & INTRODUCTIONS

Alvin G. Keene, President, Information Management Institute, Inc., Carrabassett Valley, Maine  
John Cooper, President, Toner Research Services, Beaufort, South Carolina

## THE FUTURE OF DIGITAL PRINTING

Peter Mason, Senior Vice President, Torrey Pines Research, Rochester, New York

- Nondigital Printing Technologies
- Primary Digital Printing Technologies' Status: Electrophotography, Ink Jet & Thermal
- Other Digital Printing Technologies' Status: Direct Writing To Media, Electrography, Etc.
- Recent Changes In The Industry
- Digital Vs. NonDigital Wars: Market Needs, Performance, Capital Costs & Cost Of Materials
- Future Trends: Hybrid Systems, Effect Of Incremental Technology Improvements, New Applications, Potential Disruptive Digital Technologies & Potential Disruptive Market Forces

## TONER PRINTING'S MARKET POSITION

Cortney Kasuba, Research Analyst, Lyra Research, Inc., Newtonville, Massachusetts

- The Home Market
  - Primarily A Replacement Market
  - Photo Printing Is The Industry Driver For Growth
- The SOHO Market: Printer Buying Intentions – Lyra Survey Results
- The Office Market
  - Growth Fueled By Color Lasers
  - Is There A Place For Ink Jet?
- Global Toner Market Overview
  - Color & Monochrome Toner
  - The Players: OEM & Aftermarket
  - Chemical & Mechanical Toner

## LIQUID ELECTROPHOTOGRAPHIC DIGITAL COMMERCIAL PRINTING

Dr. Eric G. Hanson, Department Manager, Hewlett Packard Laboratories, Palo Alto, California

- Analog To Digital Transformation Of Commercial Printing
- Liquid Electrophotography Printing Process & Materials
- Developer Configuration & High Process Speed
- Advantages Of Liquid Toner
- Color Control
- Spot Colors & Ink Mixing System

## EXPANDING APPLICATIONS FOR HIGH SPEED TONER BASED PRINTING

Dr. Lode Deprez, Vice President Toner & Developer Group, Punch Graphics International, Lier, Belgium

- Market Wise: Where Is High Speed Digital Color Printing Successful?
- Current Trends In Toner For High Speed Digital Color Printing: Not Only CPT, Also Adapted MPT With Other Milling, Classifying & Shape Modification Techniques
- Trends In Environmental Approach: Especially Deinking/Paper Recycling
- Trends In Specialty Toners: Spot Colors, Pantone, Security, Gloss & Custom
- Special Applications: UV, Ceramic, Etc.

5:30 p.m. Reception

**Tuesday, February 7, 2006**

7:00 a.m. Continental Breakfast

8:00 a.m. **Session 2  
Technology & Market Issues (cont.)**

## TONER MARKET FORECAST & TRENDS

John Shane, Director, Communication Supplies Consulting Service, InfoTrends/CAP Ventures, Weymouth, Massachusetts

- U.S., European & World Toner Market Forecast
- Color Vs. Monochrome
- Copier, Printer, Fax & MFP
- Personal, Work Group & Production Printing Environments
- Key Issues Impacting Toner Industry: Legal, User, Technology, Aftermarket & OEM
- Toner Manufacturers

## MARKET ISSUES FOR TONER & RAW MATERIALS IN THE EMERGING WORLD MARKETS

Graham J. Galliford, President, Galliford Consulting & Marketing, Ventura, California

- Current And Future Toner & Toner Raw Materials Markets In Asia
- Supplier Trends
- Competitive Landscape
- Cost & Pricing In Asian Markets & Exports To The Developed World

## CHEMICAL TONERS: CURRENT STATUS & FUTURE PROGRESS

Dr. Michael A. Hopper, Copperas Consulting, Toronto, Ontario, Canada

- What Does CPT Bring To Toner Printing Game?
- CPT Production Approaches & Those Involved (Products & Patents)
- CPT Materials & Sources: Resins, Pigments, Release Agent & CCA
- CPT Provides Toner Features Not Possible With Conventional Toner Production
- Limits Of CPT Process & Its Application In The Future

## CONVENTIONAL TONER PRODUCTION: CAN YESTERDAY'S TECHNOLOGY MEET TOMORROW'S NEEDS

Dr. Jeffrey Clark, Director of Product Development, Nashua Corporation, Merrimack, New Hampshire

- Traditional & Chemical Toner Overview
- Wax Content Differences
- Soft Core/Shell Chemical toners
- Pigment Dispersion, Pile Height & Transparency
- Processes To Make Traditional Toner Behave Similar To Chemical
- Cost Considerations: Compressed Air Vs. Evaporating Water
- Particle Size, Yield & Waste Issues

12:00 Noon Luncheon

1:30 p.m. **Session 3 – Raw Material Issues**

## PANEL DISCUSSION: CURRENT & FUTURE POLYMER TRENDS

**Panel Moderator:** Dr. Trevor Martin, President, T Mart Consulting, Burlington, Ontario, Canada

**Panel Members:** Dr. Francis Chupka, Product Development Manager, Image Polymers, Mount Pleasant, Tennessee

Dr. Gordon Hardy, Research Specialist, Hunt Imaging, Berea, Ohio

Dr. Christopher Johnson, Sr. Development Engineer, Mitsubishi Chemical

Dr. Dinesh Tyagi, Senior Research Associate – Color Business, NexPress Solutions, Rochester, New York

### Panel Members Will Discuss:

- Polyesters Vs. Styrene Acrylic To Optimize Cost/Performance
- Polymer Blends As An Option To Polyesters
- Lower Cost Polyester Options
- New Polymers To Compete With Polyesters
- Compatibilizers For Wax/Polymer
- Polymer Options For Chemicals Toners
- Environmental Issues: Volatiles, Catalysts, Etc.
- Specialty Polymers For Nontraditional Printing

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Fax: +1-207-235-2226

Email: [imi@imiconf.com](mailto:imi@imiconf.com)

## St. Pete Beach, Florida

The Tradewinds Island Grand Resort & Conference Center enables conference attendees to enjoy 18 tropical acres along the white sandy beach of the Gulf of Mexico.

St. Pete Beach is close to everything, yet miles away. Situated on a beautiful peninsula located on Florida's West coast, the area is bordered by the Gulf of Mexico to the west and by Tampa Bay to the east offering 35 miles of white sand beaches on some 20 barrier islands. Yet, it is within minutes of many popular Florida attractions: just 30 minutes to Busch Gardens in Tampa and 90 minutes to Walt Disney World Resort, Sea World and Universal Studios Escape in Orlando.

The St. Petersburg/Tampa Bay area offers a wide array of activities ranging from exploring and enjoying the area's many beaches to museums, theaters, aquariums, sporting events, restaurants, shopping and much more.

The St. Pete Beach area offers opportunity for unique recreation combined with your conference experience: warm Gulf sunsets, unique cultural heritage, enormous sporting and recreational activities, fresh seafood, great shopping, a dip in the ocean or pool, a game of tennis or golf or just enjoy IMI's evening receptions – well you get the idea. **See you in St. Pete Beach.**

## WAX FOR DIGITAL PRINTING APPLICATIONS

Elizabeth Yuan, Sr. Research Chemist-Imaging  
Baker Petrolite Polymers, Sugar Land, Texas

- Wax Overview: Definition, Types, Chemistry, Structure & Properties
- Application Of Waxes For Digital Printing: Electrophotography, Ink Jet & Thermal Transfer
- Functions Of Waxes In EP Toners
  - Release Aid
  - Modification Of Polymer Properties: Melt Behavior & Viscosity
  - Pigment Dispersing Aid
- Incorporation Of Wax Into Conventional Toner
  - Melt Mixing
  - Compatibilization
  - Polymer Reaction
  - External Additive
- Incorporation Of Wax Into Chemical Toner
  - Water Base Dispersions
  - Solvent Base Dispersions

## COLORANTS FOR CURRENT & FUTURE TONERS

William Dowden, Technical Manager, Non-Impact Printing, Clariant Corporation, Coventry, Rhode Island

- Pigments In General: Types, Markets, Applications, Color Parameters, Fastness, Etc.
- Pigments/Dispersions For Toners
  - Special Pigment Requirements For Toner & Tribo Properties
  - Pigment Dispersions For Conventional & Chemical Toners
  - Pigment, Additive & Process Selection
  - Special Pigment Requirements For Each Technology (Liquid & Solid Dispersion)
- Future Requirements: Higher Light Fastness, Lower Cost, Registration & Environmental Issues For New Pigments

**SUPPLIER'S FORUM:** 5-Minute Presentations Related To Technology, Capabilities, Services, New Product Introductions, etc. The Suppliers' Forum is open to all Conference Registrants

5:30 p.m. Reception

Wednesday, February 8, 2006

7:00 a.m. Continental Breakfast

8:00 a.m. **Session 3**  
**Raw Material Issues (cont.)**

### CARBON BLACK PIGMENT FOR TONERS

Eugene Step, Senior Scientist, Imaging Pigments, Cabot Corporation, Billerica, Massachusetts

- What Are Key Requirements For Carbon Black In Conventional Toners?
- What Trade-offs Must Be Managed To Select A Carbon Black Product For Conventional Toners
- How Do Requirements Change For Chemical Toners?
- What New Issues Must Be Considered When Choosing A Carbon Black Product For A Chemical Toner Formulation?
- How Can We Think Differently About Pigment Use In Chemicals Toners?

### MAGNETIC PIGMENTS FOR CURRENT & FUTURE TONERS

Dr. Hendrik Kathrein, Head of Competence Center Paper-Plastic-Specialties & Global Toner Business, BU Inorganic Pigments, Lanxess Deutschland GmbH, Krefeld, Germany

- Requirements For Magnetic Pigments For LBP, Analog & Digital Copier Toners
- Surface Chemistry Of Iron Oxides
- Future Trends
- Use Of Iron Oxides In Chemical Toners

### THE FUTURE FOR CARRIERS

Bill Hutcheson, Technical Manger, Powdertech International, Valparaiso, Indiana

- Market Applications
- Core Trends
- Core Surface Treatments
- Carrier-Toner Interactions
- Market Trends

## CHARGE CONTROL AGENTS: A TECHNOLOGY IN TRANSITION

John Cooper, President, Toner Research Services, Beaufort, South Carolina

- Evolution Of Charge Control Agents
- Current Internal Charge Control Agents: What & Why
- External Charge Control
- How Will Chemical Toners Control Charge
- Will Use Of Polymer Resins Affect Charge Agent Use
- Driving Factors For New Charge Agents
- Speculating On Future Charge Control Agents
- Alternative Applications For Charge Control Agents

## EMERGING TRENDS IN EXTERNAL OXIDE ADDITIVES

William Williams, R & D Project Leader, Fumed Metal Oxide R&D, Cabot Corporation, Billerica, Massachusetts

- Recent Toner Printing Trends Require More Than Freeflow From External Oxide Additives
  - Increased Demand For Highly Durable Additives For High Speed & Volume Printing
  - New Demands For Spacing Additives For Smaller, Chemical Toners
  - Increased Demand For Toners That Have Stable & Controllable Tribocharging Over Wide Range Of Ambient Temperatures & Relative Humidity
- New Additive Materials & New Surface Treatments To Meet These Demands

12:00 Noon Adjournment



## Information Management Institute

Information Management Institute, Inc. (IMI) is a leading worldwide sponsor of conferences designed to assist the digital printing industry in understanding technology developments, markets and applications requirements. IMI conferences offer a unique opportunity for leading hardware, consumables, software and user companies representatives to network and develop a more comprehensive understanding of current as well as future developments in the digital printing industry. Since 1990, IMI has held over 250 programs and each year over 2,000 technical, marketing and management personnel from over 600 companies worldwide attend IMI programs.

IMI conference programs are designed to enable attendees to obtain the latest technical, market and application information while allowing time to network with other attendees in a time and cost efficient manner. Attendance at an IMI conference enables attendees to meet with the digital printing industry's leading experts on the specific conference topic in a single location over a short period of time thus maximizing information transfer efficiency and minimizing travel and time expenses.

## Free Displays and Suppliers' Forum

IMI offers complimentary display space to all conference registrants. Product displays and demonstrations are encouraged. IMI will cooperate with all interested parties to provide appropriate space so products can be displayed and demonstrated during the conference breaks and receptions. There is no charge in addition to the conference registration fee to have a display table. Interested companies should contact Al Keene at IMI [al@imiconf.com](mailto:al@imiconf.com) to ensure that proper arrangements are made for product displays and demonstrations.

Also, you can participate in the popular **SUPPLIER'S FORUM**. You can give a 5-Minute Presentations describing your Company, Technology, Products, Capabilities, Services, New Product Introductions, etc. The Suppliers' Forum is open to all Conference Registrants

### SPECIAL NOTICE WORLDWIDE PRINTER AND SUPPLIES MARKET REPORT TO BE PROVIDED TO ALL CONFERENCE REGISTRANTS

Information Management Institute, Inc. is pleased to announce that it has commissioned I T Strategies of Hanover, Massachusetts to prepare a confidential study report entitled "**Worldwide Printer and Supplies Market Report**" for distribution to all registrants to IMI's programs.

This exclusive market report is updated on an ongoing basis and provides a source of market information based on a consistent methodology and reporting structure. The report authors, I T Strategies, generate this report from their worldwide model of the printer industry.

All registrants to the **9<sup>th</sup> Annual Toner & Imaging Chemicals Conference** on February 6-8, 2006 at Tradewinds Island Grand Resort, St. Pete Beach, Florida will receive a complimentary copy of the latest edition of the "**Worldwide Printer and Supplies Market Report.**"

## Registration Information

Registration Fee:

\$1095 per registrant

\$995 for second person and each additional registrant from same company to same conference or for same registrant to additional conferences when registered as a group.

The registration fee for each conference includes attendance at all scheduled conference sessions, continental breakfasts, lunch, receptions, coffee breaks, plus the conference reference binder and CD-ROM.

Cancellations will receive a 100% refund if made 72 hours prior to the start of the program. Substitutions may be made at any time. Cancellations made less than 72 hours prior to the start of the conference will be charged a \$300 cancellation fee, but will receive a copy of the complete conference binder and CD.

To register for the **9<sup>th</sup> Annual Toner & Imaging Chemicals Conference**, submit the registration form with payment to Susan Meldrum, Conference Administrator, Information Management Institute, Inc., 1106 Valley Crossing, Carrabassett Valley, ME 04947 USA. You may reserve space by calling +1-207-235-2225, sending a fax to +1-207-235-2226 or by sending an email message to [imi@imiconf.com](mailto:imi@imiconf.com) or visiting our web site [www.imiconf.com](http://www.imiconf.com)

## Tradewinds Island Grand Resort

IMI's **9<sup>th</sup> Annual Toner & Imaging Chemicals Conference** is being held at the Tradewinds Island Grand Resort & Conference Center located in St. Pete Beach, Florida. Hotel reservations are the responsibility of each meeting registrant. To receive the special meeting rate of \$159 for single or double occupancy, you must identify yourself as a registrant to an **IMI Conference**. **Early booking is advised** as the reduced rate is guaranteed only until January 18, 2006. Phone the Group Reservations Department at +1-800-808-9833 (Or +1-727-363- 2212 and Ask for Group Reservations) to make hotel reservations. The hotel address is:

Tradewinds Island Grand Resort & Conference Center  
5500 Gulf Boulevard  
St. Pete Beach, FL 33706  
Phone: +1-727-367-6461  
Reservations Phone: +1-800-808-9833  
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## REGISTRATION FORM



**9<sup>th</sup> Annual Toner & Imaging Chemicals Conference**  
February 6-8, 2006

NAME \_\_\_\_\_

JOB TITLE \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

COUNTRY \_\_\_\_\_

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To Register Online: Go To [www.imiconf.com](http://www.imiconf.com)

## HOTEL RESERVATIONS

To make your hotel reservations at the Tradewinds Island Grand: Phone the Group Reservations Department at +1-800-808-9833 (Or +1-727-363- 2212 and Ask for Group Reservations).



Credit: Tradewinds St. Pete Beach

All checks should be in U.S. dollars drawn on a U.S. bank and made payable to Information Management Institute, Inc. An invoice with bank transfer details for IMI's U.S. or European bank account will be provided upon request.



## Don't Miss IMI's Other Jan/Feb 2006 Programs

Other IMI Programs at Tradewinds Island Grand  
St Pete Beach, Florida

**Ink Jet Academy: Theory of Ink Jet Technology**  
January 29-30, 2006

**15th Annual Ink Jet Printing Conference**  
January 30-February 1, 2006

**13th Tag, Ticket & Label Printing Conference**  
February 1-3, 2006

**14th Annual Laser Printing Conference**  
February 8-10, 2006

Visit [www.imiconf.com](http://www.imiconf.com) or [www.imieurope.com](http://www.imieurope.com) for program and registration details