



**14<sup>th</sup> Annual  
THERMAL PRINTING  
CONFERENCE  
April 28 - 30, 2003**

**2<sup>nd</sup> Annual  
PHOTOGRAPHIC QUALITY  
DIGITAL PRINTING  
CONFERENCE  
April 30 - May 2, 2003**

**12<sup>th</sup> Annual  
INK JET PRINTING  
CONFERENCE  
May 5 - 7, 2003**

**10<sup>th</sup> Annual  
DIGITAL PRINTING SUPPLIES  
CONFERENCE  
May 7 - 9, 2003**



**The SunBurst Resort - Scottsdale, Arizona**

**Information Management Institute**

Information Management Institute, Inc. (IMI) operates the largest and most comprehensive conference and seminar program series in the digital printing industry. Each year over 2000 industry technical and management personnel from over 600 companies attend approximately 20 programs covering ink jet, thermal, laser, high speed digital printing, digital textile printing, imaging chemicals and other digital printing topics. IMI and IMI Europe also run short courses in conjunction with conference programs and at their unique **Digital Printing Summer School** (held at Cambridge University, Cambridge, England) and **Digital Printing Summer Camp** (held at Sugarloaf/USA in Maine with plans to expand to the Western U.S. in 2003) during the summer months. IMI also publishes an annual **International Digital Printing Industry Directory** which is the only comprehensive compilation of hardware, component and supplies manufacturers, as well as consulting organizations, in the digital printing industry. IMI is the leading information source for the digital printing industry.

**IMI's Spring 2003 Conferences**

IMI brings together four major conferences in the digital printing field, thus affording attendees to obtain thorough and comprehensive assessments of both ink jet and thermal printing technologies plus the rapidly growing photographic quality digital printing field and digital printing supplies (paper, inks, toners, etc.) which are essential to new application and market development. Each program has been designed to provide thorough technical and marketing perspectives of the conference topics by acknowledged experts and leading innovators in their fields of expertise. Leading commercial companies, consultants and technology experts will provide unique insights into the development of each of these important digital printing topics. Given today's business climate, there is simply no more cost effective method to obtain the most up to date information, establish personal relationships with the digital printing industries leaders and obtain key technical and marketing information critical to your future success in the digital printing industry.

**The Location – Scottsdale, Arizona**

For IMI's Spring 2003 conference programs, The SunBurst Resort, Scottsdale, Arizona is a location that enables conference participants to enjoy the beautiful evenings (and maybe a weekend) in the Valley of the Sun. Settled in about 1895, Scottsdale is a popular winter resort as well as a desirable arts and craft, golf and shopping destination. Scottsdale is located in central Arizona, adjacent to Phoenix and in the heart of the Sonoran Desert. The Sonoran Desert is a magnificent backdrop for everyday life as well as visitors. Stunning sunsets, towering Saguaros, and curious javelina are common encounters that result in lively conversation and more than a bit of awe and wonder. With more than 300 days of sunshine each year, Scottsdale provides the opportunity for unique recreation combined with your conference experience: a hot air balloon ride, a jeep tour in the desert, a mountain bike ride along Scottsdale's miles of bike paths, a game of tennis or golf, a dip in the pool or just enjoy IMI's outdoor evening receptions - well, you get the idea. See you in Scottsdale.

## WELCOME TO IMI'S SPRING PROGRAMS

Information Management Institute, Inc. is pleased to present the final programs for its Spring 2003 conferences being held at The SunBurst Resort, Scottsdale, Arizona. As digital printing continues to expand its market coverage and open up new application frontiers, we feel it is important for all printing industry participants to convene and evaluate the current and future impact of digital printing technologies on their future.

IMI's Spring 2003 conferences in Scottsdale

**14<sup>th</sup> Annual Thermal Printing Conference**  
April 28-30, 2003

**2<sup>nd</sup> Annual Photographic Quality Digital Printing Conference**  
April 30-May 2, 2003

**12<sup>th</sup> Annual Ink Jet Printing Conference**  
May 5-7, 2003

**10<sup>th</sup> Annual Digital Printing Supplies Conference**  
May 7-9, 2003

will provide the latest technological advancements, application developments and market projections in the digital printing industry that we don't think you will want to miss.

IMI's conference programs offer the best value in the industry with competitive registration fees, discounts for multiple registrations and great opportunities to network with speakers and other attendees at inclusive breaks, lunches and receptions. Additionally, registrants are encouraged to display company literature and products via our complimentary table-top display policy and to give short presentations during our popular "Suppliers' Forum" sessions.

If digital printing market opportunities, applications expansion and the latest industry developments are important to you and your company's future business, we think you will want to attend one or more of **IMI's Spring 2003 Conferences**.

We look forward to seeing you in Scottsdale at these timely and valuable programs.

**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 conferences.

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 **IMI's Spring 2003 Conferences** at The SunBurst Resort, Scottsdale, Arizona will receive a complimentary copy of the latest edition of the "**Worldwide Printer and Market Report**."



### PRODUCT DEMONSTRATIONS FREE DISPLAYS

Printer and other product demonstrations/displays by both conference speakers and registrants are encouraged. IMI will cooperate with all interested parties to provide appropriate space so products can be displayed and demonstrated during the conference breaks. There is no charge in addition to the conference registration fee to have a display table. Interested companies should contact Al Keene at IMI to ensure that proper arrangements are made for product displays and demonstrations.

Al Keene  
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Email: imi@tdstelme.net  
Web Site: [www.imiconf.com](http://www.imiconf.com)

### LOCATION

The SunBurst Resort is conveniently located in the heart of Scottsdale, just minutes from Scottsdale Fashion Square, the Arts District, fine dining and championship golf. Each of the SunBurst Resort's guest rooms is an expression of the New West style; open and airy with native fabrics and patterns, delightful terraces, designer bathrooms and all you would expect in the finest resorts. Airport transportation from Phoenix Sky Harbor International Airport is available via SuperShuttle (located outside baggage claim) for \$12 each way. Recreational amenities at The SunBurst Resort include the Pacific Blue Sand Beach Pool, Tropical torch-lit Main Pool, rambling Mediterranean lagoon, partnership with Troon Golf (offering some of area's best courses) and fitness center. The SunBurst Resort ([www.sunburstresort.com](http://www.sunburstresort.com)) plus the Phoenix/Scottsdale area ([www.scottsdalecvb.com](http://www.scottsdalecvb.com)) and the State of Arizona ([www.arizonaguide.com](http://www.arizonaguide.com)) provide an excellent opportunity to extend your visit into a memorable vacation experience. Dress for **IMI's Spring Conferences** will be casual.

The SunBurst Resort address is

The SunBurst Resort  
4925 North Scottsdale Road  
Scottsdale, AZ 85251  
Phone: +1-480-945-7666  
Reservations Phone: +1-800-528-7867  
Fax: +1-480-946-4056

**For The Latest IMI Updates**

**Visit Our Web Site**

**[www.imiconf.com](http://www.imiconf.com)**

### HOTEL INFORMATION

IMI's Spring 2003 Conferences are being held at The Sunburst Resort located in Scottsdale, Arizona. Hotel reservations are the responsibility of each meeting registrant. To receive the special meeting rate of \$155 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 April 14, 2003. **Phone +1-800-528-7867 or +1-480-945-7666 to make hotel reservations**



## Benefits of IMI Conference Attendance

Attendees at IMI conference programs hear presentations covering the latest technology advancements, market and applications expansion and the key elements of successful business development in the digital printing industry.

Information obtained from the conference presentations and networking with other conference participants often provides critical insights required to expand business, solve technical problems, secure new markets, etc. in this dynamic and rapidly changing industry. Other conference benefits include:

- Participate with the digital printing industry's "movers and shakers" in conference programs focused on the development and implementation of digital printing for key growth markets and applications
- Establish personal relationships with the digital printing industry's leading technologists, managers and innovators in a relaxed, casual environment
- Gain knowledge of the technology developments being made and still required to meet the needs of digital printing applications
- Receive an appreciation for the challenges and issues requiring attention for digital printing technologies to expand in importance in the commercial world

## UPCOMING IMI & IMI EUROPE PROGRAMS

### Digital Printing Summer School

July 14-18, 2003

Clare College

Cambridge, England

Courses to be Announced

**Watch Web Site:** [www.imieurope.com](http://www.imieurope.com)

### Digital Printing Summer Camp-EAST

July 28-August 1, 2003

Grand Summit Hotel, Sugarloaf/USA

Kingfield, Maine, USA

#### Topic to be Announced

July 28-29, 2003

**From Formulation To Fill: Ink Jet Ink Development & Manufacturing**  
July 30-31, 2003

**Keeping It Working: Ink Supply & Printhead Maintenance**  
July 31-August 1, 2003

### Digital Printing Summer Camp-WEST

August 4-8, 2003 - Tentative

Location & Courses to be Announced

**Watch Web Site:** [www.imiconf.com](http://www.imiconf.com)

**For Up-To-Date Program Information**

**Visit IMI & IMI Europe Web Sites:**

[www.imiconf.com](http://www.imiconf.com)

[www.imieurope.com](http://www.imieurope.com)

### 2<sup>nd</sup> Annual Digital Electronic Materials Deposition Conference

October 20-22, 2003

**1<sup>st</sup> Digital Dispensing, Dosing & Metering Conference**

October 22-24, 2003

Chaparral Suites Hotel

Scottsdale, Arizona

### The Ink Jet Academy:

**Theory of Ink Jet Technology**

November 9-10, 2003

**11<sup>th</sup> Annual European Ink Jet Printing Conference**

November 10-12, 2003

**1<sup>st</sup> European UV Ink Jet Conference**

November 12-14, 2003

Sheraton Lisboa Hotel & Towers

Lisbon, Portugal

### The Ink Jet Academy:

**Theory of Ink Jet Technology**

February 2-3, 2004

**2<sup>nd</sup> Annual UV Ink Jet Symposium**

February 2-3, 2004

**Ink Jet Developers Conference 2004**

February 4-6, 2004

Chaparral Suites Hotel

Scottsdale, Arizona

## 2003 International Digital Printing Industry Directory

IMI is pleased to announce its **2003 International Digital Printing Industry Directory**. This directory focuses on the needs of the digital printing industry of the 21<sup>st</sup> Century for a comprehensive listing of hardware/supplies manufacturers and consultants active in digital printing arenas.

The **2003 International Digital Printing Industry Directory's** emphasis is to give individuals working within the digital printing industry "one-stop-shopping for the contacts needed to help them obtain/assess products, expand business, solve problems, secure industry information, etc., in the rapidly changing and expanding digital printing industry."

### 2003 International Digital Printing Industry Directory features:

- **Over 500 Digital Printing Hardware/Supplies Manufacturers & Consultants with Complete Contact Information**
- **One-Stop Shopping for Digital Printing Industry Contacts**
- **Inquiry Service**
- **Hard Copy & Electronic Version**
- **All for \$500**

**For Complete Information: Visit our web site [www.imiconf.com](http://www.imiconf.com)**

**OR**

**Call +1-207-235-2225 Fax +1-207-235-2226 Email: [imi@tdstelme.net](mailto:imi@tdstelme.net)**

# 14<sup>th</sup> Annual THERMAL PRINTING CONFERENCE

## CONFERENCE FOCUS

This unique annual Thermal Printing Conference is **the only thermal printing industry event** devoted to a comprehensive assessment of thermal imaging technologies, markets and applications. The program focuses on technological advancements, design elements, materials developments and market issues that are critical to the continued competitiveness of thermal printing in specialty printing applications and the overall printer marketplace. Thermal printing's continued growth in many specialty market sectors has resulted from the market's capitalization on thermal printing's basic attributes of simplicity, reliability, excellent print quality and low operating costs. Conference speakers will discuss thermal and thermal transfer imaging's role in a wide range of end use markets as well as the design issues that contribute to thermal printing's continued success and growth in critical market sectors. Leading technologists and industry experts will address the innovations, trends and market forces that are shaping thermal printing's role in the overall printing industry. Don't miss this opportunity for hardware vendors, consumables suppliers, converters, component suppliers and end users to communicate and network with their counterparts from the thermal printing industry's leading companies.

## CONFERENCE CHAIRMAN

Harold Schofield, Atlantek

## CONFERENCE SPEAKERS

Richard P. Collins, Kyocera  
Mike Cove, Appleton  
Bill English, Bielomatik  
Dr. David G. Foster, Eastman Kodak  
Dana Goodale, Gerber Scientific Products  
David Krebs, Venture Development Corp.  
Gerry LaPorte, U.S. Secret Service  
Charles E. Mara, Consultant  
Francie Mendelsohn, Summit Research  
John Murphy, Zebra  
Kozo Odamura, Dai Nippon  
Tadayoshi Sato, Rohm  
Scott M. Smith, Atlantek  
Om P. Srivastava, Gulton  
John Szymanski, Atlantek  
Dr. Stephen J. Telfer, Polaroid  
Rick Wallace, IIMAK  
Dr. James R. Williams, Polyonics

## Monday, April 28, 2003

11:00 a.m. - 5:00 p.m. Conference Registration

1:00 p.m. Session 1 – **Market Development**

### WELCOME AND INTRODUCTIONS

Alvin G. Keene, President, Information Management Institute, Inc., Carrabassett Valley, Maine

### STATE-OF-THE INDUSTRY ADDRESS

Harold Schofield, President & CEO, Atlantek Inc., Wakefield, Rhode Island

- Conference Overview: Creating New Growth
- Industry Update For 2003
  - Growth By Market Segment For 2003
  - What's New For 2003?
  - New Applications & Innovations
- Technology Update
- Competitive Assessment: Thermal Vs. Competing Technologies
- Opportunities & Requirements For Continued Industry Growth

### KIOSK TRENDS AND PRINTING IMPLICATIONS: BRIGHT FUTURE FOR THERMAL PRINTING

Francie Mendelsohn, President, Summit Research Associates, Rockville, Maryland

- Overview Of Kiosk Industry: Growth, Market Share, Trends (US & International), Overwhelming Use Of Thermal Printers
- Areas With Most Promise: Retail, Transportation, Entertainment & Financial
- What The Industry Needs To Know
  - Ease Of Maintenance: Consumables Replacement
  - Kiosk Management Software: Early Warnings (Paper Low)
  - Biggest Cause Of Kiosk Failure
- Case Studies: Circle K Bill Payment, Sainsbury's Loyalty Programs & WalMart Gift Registries

### MARKET OVERVIEW OF ON DEMAND PRINTED LABELS

Charles E. Mara, Consultant, Concord, Massachusetts

- Primary Applications Driving The Market
- Thermal Technology Dominates The Market
- Estimated Market Share Of 9 Leaders
- The Street Price "Sweet Spot"
- Other Label Printing Technologies
- Demand Printer Innovations
- Thermal & Ink Jet Color
- Beyond Linear Bar Codes: An Update

### GLOBAL MARKETS & APPLICATIONS FOR THERMAL LABEL PRINTERS

David Krebs, AIDC Group Manager, Venture Development Corporation, Natick, Massachusetts

- Overview & Market Segmentation
- Market Size & Growth
- Traditional & Emerging Application Analysis
- RFID/Smart Label Printing Opportunity Analysis
- Distribution Channel Analysis
- Market Implications & Key Success Requirements

### COLOR THERMAL TRANSFER: WHAT IS THE PRESENT CONDITION OF THE TECHNOLOGY AND WHAT DOES THE FUTURE BRING?

Rick Wallace, Senior Vice President & General Manager, Color Digital Systems & Supplies Group, IIMAK, Amherst, New York

- Overview Of The Present State Of The Technology
- How Do We Stack Up Competitively In 2003?
- Applications That Are Expanding & Those That Have Failed
- What Are The Future Opportunities?
- The Enablers To Ensure A Bright Future

5:30 p.m. Reception

## Tuesday, April 29, 2003

7:00 a.m. Continental Breakfast

8:00 a.m. Session 2 – **Media Advancements**

### WHY DO MANUFACTURERS HAVE SO MANY DIFFERENT GRADES OF DIRECT THERMAL PRODUCT?

Mike Cove, Senior Marketing Manager, Appleton, Appleton, Wisconsin

- Key Product Differentiators
- How Differentiators Are Used To Satisfy Individual Market & End Use Needs
- Ways To Increase End User Value
- Looking At Indirect Opportunity Costs Of Thermal Technology Or Specific Attributes
- Future Requires Understanding Of End User Needs To Ensure System Optimization

14<sup>th</sup> Annual THERMAL PRINTING CONFERENCE  
co-sponsored by



## THEMAL PRINTING OPPORTUNITIES FOR INDUSTRIAL APPLICATIONS

Dr. James R. Williams, Director of Sales & Marketing, Polyonics, Westmoreland, New Hampshire

- Let's Dispel The Myth Of "I Don't Want To Get Into That Area – The Labels Are Too Expensive"
- Internet As Enabler For Engineered Thermal Printing Opportunities
- Importance Of Matching The Ribbon, Printer & Receiver Sheet For Harsh Environment Applications
- Technology Trends

## PHOTO QUALITY THERMAL DYE TRANSFER MEDIA

Dr. David G. Foster, Thermal Media Builder, Thermal Media Laboratory, Eastman Kodak Company, Rochester, New York

- Design Considerations
- Recent Developments
- Competitive Benefits
- Consumer & Professional Application Requirements
- More Than A Decade Of Field Proven Success

## A NEW APPROACH TO DIGITAL PHOTOFINISHING

Dr. Stephen J. Telfer, Senior Science & Technology Fellow, Instant Digital Printing Group, Polaroid Corporation, Wayland, Massachusetts

- Opal Chemistry: A New Thermal Transfer Medium
- Fast Printing Of Trichrome Images Using Opal Media With Multiple Thermal Printheads
- Producing Photographic Quality Images Using Opal Variable Dot Thermal Transfer Printing Technology

## COLOR IMAGE MEDIA FOR DIGITAL PHOTO APPLICATIONS

Kozo Odamura, Assistant Manager, Technical Department, Information Media Operation, Dai Nippon Printing Co., Ltd., Okayama, Japan

- Features Of Thermal Dye Transfer Technology
- Advantages Compared To Other Digital Photo Printing Technologies
- Market Trend Of Digital Photo Applications: Home & Business Use
- Developments In Thermal Dye Transfer Media For Future Trends

12:00 Noon Luncheon

1:30 p.m. Session 3 – **Printing Requirements & Opportunities for Growth Applications**

## PORTABLE PRINT TECHNOLOGY: REVOLUTIONIZING YOUR ABILITY TO SERVICE YOUR CUSTOMERS

John Murphy, Sr. Product Manager, Zebra Technologies, Warwick, Rhode Island

- Integration Of New Technologies & Features Into Portable Print Products Facilitates New Ways To Do Business: Smart Card, Magnetic Card, Higher Speed Processors, Improved Battery Life, Faster Motors & Longer Duty Cycle Printheads
- Solutions Now Exist In A Broad Range Of Markets: Hospitality, Retail, Warehousing, Transportation & Healthcare
- Custom Media Available To Support Unique Applications: Smart Tags
- RF Technology Creating An Affordable Completely Wireless Solution
- New Technologies Combined To Change Business Models: Improving Efficiency, Improving Customer Satisfaction & Increasing ROI

## RFID TECHNOLOGY AND ITS POTENTIAL IMPACT ON THERMAL PRINTING

Bill English, Vice President Sales, Bielomatik Inc., New Hudson, Michigan

- RFID Technology & Implementation
- RFID Markets
- RFID Thermal Label Applications
- Future Trends

## THERMAL TRANSFER'S FUTURE ROLE

Dana Goodale, Product Marketing Manager, Imaging Products, Gerber Scientific Products, South Windsor, Connecticut

- Can Thermal Transfer Maintain Its Market Position & Share?
- Development Goals, Targets & Challenges
- Technology Comparisons
- Thermal Transfer Vs. Competitive Technologies
- Market Opportunities

## THEMAL PRINTING IN THE PHOTO MARKETPLACE

Scott M. Smith, Business Development Manager, Atlantek Inc., Wakefield, Rhode Island

- History Of Photo Quality Thermal Printing
- Competitive Advantages For Digital Image Printing
- Digital Photo Market Overview
- Competitive Price/Performance Benchmarks
- New Developments In Photographic Quality Thermal Printing
- Future Trends For Thermal Printing Of Digital Images & Photos

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

6:00 p.m. Reception

## Wednesday, April 30, 2003

7:00 a.m. Continental Breakfast

8:00 a.m. Session 4 – **Design Issues & Improvements**

## THE FORENSIC EXAMINATION OF THERMAL TRANSFER PRINTING

Gerry LaPorte, Forensic Scientist/Chemist, United States Secret Service, Washington, DC

- Increased Awareness Of Identity Documents Caused By 9/11
- Agencies Considering Security Features: Holograms, Security Inks & Biometrics
- On-Site Thermal Transfer Printing Is Cost Effective Compromise To More Readily Available Ink Jet & Laser Printers
- Thermal Transfer Has Become Predominant In Counterfeit Credit Card (& Other Documents Printed On Plastic Media) Production
- Forensic Examination Of Thermally Printed Materials
- Development Of Investigative Leads & Evidence

## THERMAL PRINTHEADS IN 2004: TRADITIONAL AND EMERGING MARKETS

Richard P. Collins Vice President Sales, I/O Group, Kyocera Industrial Ceramics Corporation, Vancouver, Washington

- Worldwide Market Overview
- Thermal Printhead Technological Evolution
- Key Developments, Markets & Trends
  - Traditional Markets: Bar Code, Tickets & Point Of Sale
  - Emerging Markets: Card/Photo ID Solutions, Photo Quality Printing, Wide Format & Medical

## INTEGRATION OF THERMAL PRINTING OFFERS NEW OPPORTUNITIES

Om P. Srivastava, President, Gulton Incorporated, Methuen, New Jersey

- Markets & Applications
- Integration Opportunities
- Price Performance Advancements

## THERMAL PRINthead TECHNOLOGY

Tadayoshi Sato, Senior Design Engineer, Rohm LSI Systems, San Diego, California

- Thermal Printhead Market Direction
- Requirements From The Market For Thermal Printheads
- New Thin Film Thermal Printhead For Photo Color Application
- Challenge For Super High Speed Printing

## SYSTEM OPTIMIZATION TECHNIQUES USING THERMAL RESPONSE CHARACTERIZATION

John Szymanski, Product Support Manager, Plotter & Tester Products, Atlantek Inc., Wakefield, Rhode Island

- What Is Thermal Response Characterization?
- Role Of Thermal Response In System Optimization
- Key Parameters That Control The Thermal Printing Process
- Equipment & Methods For Characterizing Thermal Response
- Benefits & Applications Of Thermal Response Measurement & Optimization

12:00 Noon

Luncheon & Adjournment

# 2<sup>nd</sup> Annual PHOTOGRAPHIC QUALITY DIGITAL PRINTING CONFERENCE

## CONFERENCE FOCUS

Markets and opportunities for photographic quality digital printing are now developing faster than ever. The **2<sup>nd</sup> Annual Photographic Quality Digital Printing Conference** will provide an in-depth understanding of both traditional and new growth opportunities in digital photography markets and applications. Application requirements, strengths and weaknesses of competitive digital printing technologies; key developments in enabling technologies such as mega-pixel cameras, software and color management systems; plus digital media usage trends vs. those of traditional film based products are some of the key topics to be addressed. The importance of system venues for effectively delivering photographic quality digital hard copy and the unique printer, media and systems optimization requirements needed for future market success will also be addressed.

The **2<sup>nd</sup> Annual Photographic Quality Digital Printing Conference** provides a unique opportunity for the wide cross section of companies in the digital photographic industry to obtain key insights into issues critical to their business development.

## CONFERENCE CHAIRMAN

Don Franz, Photofinishing News, Inc.

## CONFERENCE SPEAKERS

C. Thomas Ashley, Pivotal Resources USA  
Brent W. Bowyer, Independent Photo Imagers  
Dr. Douglas E. Bugner, Eastman Kodak  
Dave Coons, Eastman Kodak  
William C. Froass, Felix Schoeller  
Nicholas Hellmuth, FLAAR & Bowling Green State  
Kristy M. Holch, InfoTrends Research  
Christopher Howard, Durst ACS  
Dr. Edwin S. Iracki, DuPont  
Peter Mador, Noritsu America  
Peter Mason, Torrey Pines Research  
Bill Orr, Consultant  
Dr. James C. Owens, Torrey Pines Research  
Harold Schofield, Atlantek  
Andy Smith, Vutek  
Dr. Mary Stieglitz, Iowa State University  
Henry Wilhelm, Wilhelm Imaging Research  
Bruce Zignego, Hewlett Packard

## Wednesday, April 30, 2003

12:00 - 5:00 p.m. Registration

2:00 p.m.

### Opening Session

#### WELCOME AND INTRODUCTIONS

Alvin G. Keene, President, Information Management Institute, Inc.,  
Carrabassett Valley, Maine

#### PHOTOGRAPHIC QUALITY DIGITAL PRINTING: TECHNOLOGY OPTIONS AND SYSTEMS REQUIREMENTS

Dr. James C. Owens, Senior Fellow, Torrey Pines Research,  
Rochester, New York

- Why Digital Photography, When We Have Silver?
- Workflow Vs. Quality
- Technologies: Silver Halide, Electrophotography, Thermal, Ink Jet
- Image Quality: Images, Graphics, Text, Artifacts, Stability
- Image Appearance: Professional, Advanced Amateur, Soccer Mom
- Key Problems And A New Approach To System Optimization
- Media Considerations
- Summary & Speculation

#### DIGITAL PHOTO-IMAGING PRINTING: A WORLDWIDE OVERVIEW

Don Franz, Publisher, Photofinishing News, Inc., Bonita Springs, Florida

- Worldwide & Regional Look
  - Production Of Digital Prints By Technology & Output Channel
- How Will These Different Markets Change Over The Next 3 Years
  - What Behavioral & Technology Factors Will Affect These Changes
  - Growth Of Digital Printing In Different Regions
- Requirements For Infrastructure To Stimulate Growth & Meet Needs

#### CONSUMER PHOTO PRINTING: MARKET STRUCTURE, SIZE & DYNAMICS

Kristy M. Holch, Group Director, InfoTrends Research Group, Inc., Boston,  
Massachusetts

- Where The Opportunities Lie
  - Digital Photo Sources: Digital Cameras, Film Digitizations/Scanners
  - Output Choices: Home, Retail & Online
  - Key Stakeholders: What They Should Be Doing About Opportunity
- Photo Printing Market Size
  - End User Research Findings
  - Print Revenue By Venue & Revenue Potential
  - Where To Place Your Bets
- Photo Printing Market Dynamics
  - Digital Camera Feature Trends That Impact Photo Quality Printing
  - Factors That Can Shift Printing From Home To Retail
  - Standards Initiatives Related To Photo Printing: CPXe, EXIF, Etc.
- Next On The Agenda
  - How To Make Printing Easier For Consumers
  - Eliminating Price Premium Between Digital & Analog Printing
  - Safe Keeping Of Memories

#### DIGITAL PRINTING TECHNOLOGY FOR PHOTO PRINT FULFILLMENT

Bill Orr, Consultant, North Hampton, Massachusetts

- Digital Imaging Has Created Major Dislocations In Retail Photo Fulfillment
- Retailers With High Margin Photo Processing Sales Are Fearful
- Many Retailers Waiting For Digital To Reach "Critical Mass" Of Demand
- Digital Solutions Introduced To Fill The Gap: Hybrid Minilabs, Digital Photo Kiosks, Ink Jet Systems
- Limitations Of Current Offerings: A Clear Opportunity For Photo Quality Thermal Printing
- Consumer Driven Imaging & Dry Minilab Requirements Defined
- Sales Volumes & Break Even Points For Successful Consumer Driven Imaging Solutions

#### HIGH QUALITY OUTPUT REQUIRES HIGH QUALITY INPUT

Nicholas Hellmuth, Senior Review Editor & Director, Large Format Digital  
Imaging Division, Bowling Green State University, Bowling Green, Ohio

- What Is Required For High Quality Input System: Camera, Image Sensor, Lens, Lighting, Software, Color Management, RIP, Printer, Ink, Media, Etc
- What Kind Of Prints Can You Expect With Different Image Capture Devices?
- Comparison Of Input Device Results On Wide Format Ink Jet Output

6:00 p.m.

Reception

## Thursday, May 1, 2003

7:00 a.m.

Continental Breakfast

8:00 a.m.

Session 2

### Technology, Markets & Applications

#### TRENDS IN THE PROFESSIONAL MARKETS FOR DIGITAL PHOTOGRAPHIC DEVICES

Christopher Howard, Brand Manager, Durst ACS, Ledgewood, New Jersey

- Overview Of Professional Markets: Portrait, Social & Commercial
- Needs Of The Markets For Photo Output
- Workflow State
- Current Digital Photo Writers Product Review
- Future Trends

#### DIGITAL PHOTO IMAGERY ON FABRICS

Dr. Mary Stieglitz, Professor, Art and Design, Iowa State University, Ames,  
Iowa

- Fusion Of Photography & Fashions Is Not New
- Digital Printing Innovations Offer Vast Potential For Artists & Designers
- Creative Efforts Explore Digital Capture, Development & Application To Textiles
- Integrating Theme Is Interplay Between Surface, Structure & Form
- Changing Technologies & Cultural Influences For The Future

## PHOTOGRAPHIC QUALITY OF LIQUID TONER PRINTS

Bruce Zignego, R & D Manager, Wholesale Central Lab Photofinishing, Hewlett Packard, Vancouver, Washington

- Development Of 6-Ink Liquid Electroink Printing Liquid Toner System
- Technology For Photographic Quality Prints
- Performance & Print Quality Achieved
- Expected Developments & Print Samples

## INK JET MINILABS AS HIGH PERFORMANCE OUTPUT PRINTERS

Peter Mador, Professional Products Manager, Noritsu America, Buena Park, California

- Pioneering Efforts In Moving To Digital Minilabs
- Commercialized Technology Options
- Introduction of Digital Dry Printer dDP-411
- New Ink Jet System: Technical Attributes & Output Quality

## SURVEY OF CONSUMER AND PROFESSIONAL APPLICATIONS FOR THERMAL DYE TRANSFER TECHNOLOGY

Dave Coons, Platform Manager, Thermal Printer Engine Design, Eastman Kodak Company, Rochester, New York

- Consumer Photo Market Penetration: Kiosks, Photo Finishing & Home Printing
- Professional Photo Market Penetration: Portraiture, On-Site & Event Printing And Commercial Applications
- Price/Performance Comparisons
- Enabling Technologies

12:00 Noon Luncheon

1:30 p.m. Session 3  
**Technology, Markets & Applications (cont.)**

## MEETING THE DIGITAL PHOTO PRINTING OPPORTUNITY WITH THERMAL DYE TRANSFER TECHNOLOGY

Harold Schofield, President & CEO, Atlantek, Inc., Wakefield, Rhode Island

- Product Requirements Vs. Photo Market Segments  
- Printers, Media, Enabling Technologies
- Competitive Fit For Thermal Dye Transfer Technology  
- Myths Vs. Reality  
- Price & Performance Requirements  
- Channel Marketing & Competing Business Issues
- Design Optimization For Specialized Applications  
- Selecting Photo Quality Thermal Media  
- Quality, Print speed & Cost Optimization: Finding The Right Mix  
- Rules Of The Road For Design Optimization

## ELECTROPHOTOGRAPHY AND PHOTOFINISHING

Peter Mason, Vice President & General Manager, Torrey Pines Research, Rochester, New York

- Powder Electrophotography (EP) Outlook
- Liquid EP Outlook
- EP & Photo Image Quality: Photo Image Quality Requirements, Current EP Capability and Trends In EP Image Quality
- EP & Photofinishing: Advantages & Disadvantages
- Current EP Photofinishing Products
- Market Trends That Affect Photofinishing

## IMAGE PERMANENCE AND THE MARKETPLACE: A REVIEW OF TEST METHODS & PERMANENCE DATA FOR LATEST DIGITAL PHOTO PRINTING SYSTEMS

Henry Wilhelm, Founder & President, Wilhelm Imaging Research, Inc., Grinnell, Iowa

- Introduction & Brief History Of Photographic Image Permanence
- Home, Commercial, Fine Art & Portrait/Wedding Markets
- Test Methods & ANSI/ISO Standards
- Dye-Based Inks, Pigmented Inks & Optimized Media
- Influence Of Media On: Light Fading Stability, Humidity-Fastness, Dark Storage (Thermal) Stability, Water-Fastness & Resistance To Gas Fading
- Protective Coatings
- The Short-Term & Long-Term Future

## SURVEY OF FACTORS INFLUENCING THE IMAGE STABILITY OF VARIOUS DIGITAL PRINTING TECHNOLOGIES

Dr. Douglas E. Bugner, Director of Commercialization & Product Development, Inkjet Media, Digital & Applied Imaging, Eastman Kodak Company, Rochester, New York

- Background On Digital Printing & Image Stability
- Image Stability Factors & How They Effect Different Print Technologies
- Observations Regarding Fade Kinetics
- Primary Vs. Secondary Colors
- Comparison Of Desktop Digital Printing Technologies

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

6:00 p.m. Reception

## Friday, May 2, 2003

7:00 a.m. Continental Breakfast

8:00 a.m. Session 4 - **Issues Critical for Success**

## NEW HORIZONS FOR LARGE FORMAT PHOTO QUALITY APPLICATIONS

Andy Smith, Sales Manager Europe, Vutek, Brussels, Belgium

- Photo Quality Digital Printing Advancements
- Development Of Opportunities For Displays

## PHOTO QUALITY DIGITAL PRINTING NEEDS, EXPERIENCES, CONCERNS, ISSUES, ETC. OF INDEPENDENT PHOTO IMAGERS

Brent W. Bowyer, President, Independent Photo Imagers, Charleston, West Virginia

- Key Markets & Applications For Independent Photo Imagers
- Evolution Of Independent Photo Imagers Into Digital
- Wide Variety Of Output Requirements: Speed, Quality, Substrates, Etc.
- Trends In Use Of Digital Photography & Output
- Digital Output Options Foster Market Opportunities
- What Improvements & Advancements Do Independents Need From Output Devices & Media?

## FLUROSURFACING DIGITALLY PRINTED IMAGES: NEW FLUOROPOLYMER TECHNOLOGY FOR IMAGE PERMANENCE

Dr. Edwin S. Iracki, Senior Technical Consultant, DuPont Fluoro Products, Wilmington, Delaware

- Fluorosurfacing: What Is It & Where Is It Used?
- Digital Photography: Challenges To Print Image Aesthetics & Print Image Permanence
- Test Methods & Criteria For Image Permanence Evaluation
- Image Protection Through Fluorosurfacing
- Image Fade Test Results
- Benefit Summary Of Fluorosurfacing Image Protection

## PHOTO QUALITY INK JET PRINT MEDIA

C. Thomas Ashley, Director, Pivotal Resources USA, Lexington, Kentucky

- Market Size & Growth
- Some History
- Present Problems & Issues
- Swellable Vs. Microporous Coatings
- Ink - Media Systems

## DIGITAL PHOTOGRAPHIC MEDIA DEVELOPMENTS AND TECHNOLOGY ISSUES

William C. Froass, Sales and Marketing Manager, Felix Schoeller North America, Pulaski, New York

- Digital Photofinishing Process: From Digital File To Picture
- Ink Jet Photo Media Designs: Advantages & Disadvantages
- Color Laser Photo Media: Dry Toner & Liquid Toner
- Dye Diffusion Thermal Transfer Media
- Comparison Of Digital Media Vs. Silver Halide Photography: Light Fastness, Water Fastness, Humidity Fastness, Ozone Fastness, Dark Fading & Image Migration

12:00 Noon Closing Luncheon and Adjournment

# 12<sup>th</sup> Annual INK JET PRINTING CONFERENCE

## CONFERENCE FOCUS

IMI's 12<sup>th</sup> Annual Ink Jet Printing Conference is the only U.S. ink jet printing industry event devoted entirely to ink jet printing technologies, markets and applications. Ink jet printing continues to make technology advancements in product functionality, cost performance, print quality and color printing capabilities. As a result of these improvements, ink jet printing has become the leading digital printing technology with expansion into many new markets and applications. In addition to personal and office computer printing, applications such as display graphics, digital photography, digital printing presses, multifunction printers, textile printing, packaging printing, electronic materials deposition, precise dispensing/dosing applications plus many other specialty printing and nonprinting applications are increasingly using ink jet technology as the technology of choice. Market opportunities for ink jet printing technology have never been better, albeit in a very competitive environment.

This conference program is designed to bring together the industry's leading experts to provide a comprehensive assessment of the ink jet printing industry. The program will address the most recent innovations, trends and issues critical to continued adoption, growth and expansion of ink jet printing applications and markets. As ink jet printing continues to increase market share in numerous application sectors; this 12<sup>th</sup> Annual Ink Jet Printing Conference provides a unique opportunity for representatives from all segments of the printing industry to obtain information critical to their understanding of ink jet printing technology and market dynamics that are shaping the industry's future.

## CONFERENCE CO-CHAIRMEN

Dr. Ross N. Mills, ITi  
Mike Willis, Pivotal Resources

## CONFERENCE SPEAKERS

Howard Baldwin, Spectra  
Marco Boer, I.T. Strategies  
Mark Fiscella, MEZO Technologies  
Michael Flippin, Web Consulting Inc.  
Dr. Alan Hudd, Xenica Technology  
Haggai Karlinski, Scitex Vision  
Angie Lee, Web Consulting China  
Steve Liker, Trident  
Stewart Partridge, Web Consulting  
Paul Patterson, Seiko Epson  
Teri Ross, Imagine That!  
Scott Schinlever, Vutek  
John Shane, CAP Ventures  
Keith Smith, Xaar  
Dr. Evan Smouse, Hewlett Packard  
Dr. Michael D. Stoudt, Aellora  
Gary Swager, Jetrion

## Monday, May 5, 2003

11:00 a.m. - 5:00 p.m. Conference Registration

1:00 p.m. Opening Session  
**The Expanding Ink Jet Printing Industry**

### WELCOME AND INTRODUCTIONS

Alvin G. Keene, President, Information Management Institute, Inc.,  
Carrabassett Valley, Maine

### DIRECTIONS IN INK JET TECHNOLOGY

Mike Willis, Managing Director, Pivotal Resources, Cambridge, England

- Latest Products & Developments
- New Ink Jet Technologies
  - FlatJet
  - ToneJet
- Emerging Industrial Markets For Ink Jet
- New Applications & Products
- The Patent Scene

### INK JET PRINTING MARKET SIZE AND STRUCTURE

Marco Boer, Consulting Partner, I.T. Strategies, Inc., Hanover,  
Massachusetts

- Ink Jet's Financial Position Among Digital Printing Technologies: 1990, 1995, 2000 & 2005
- Top Manufacturers Ink Jet Revenues 2002: Hardware Vs. Supplies
- Ink Jet Market Structure: Comparison & Growth Rates (Categories: Consumer, General Purpose, Photo, All-In-One, Business, Sub \$500, Industrial, Wide Format – Including Flatbed, Textile, Addressing, Imprinting & Others)
- Ink Jet: What's Next?
- Financial Perspective On New Markets & Applications

### THE CHANGING FACE OF WIDE AND GRAND FORMAT PRINTING

Michael Flippin, Managing Consultant, Web Consulting Inc., Boston,  
Massachusetts & Angie Lee, Web Consulting China

- Commercial Effects Of Ink Jet On Analog (Screen & Offset) Printing
- Flatbed Ink Jet Printing: Graphics & Beyond
- The Rise Of Asian Manufacturers: China, Taiwan & Korea
- The Dynamics Of A Changing Industry
- Forecast & Projections For Wide & Grand Format Ink Jet Market Growth

### A NEW PLATFORM FOR INK JET PRINTING PRODUCTS

Dr. Evan Smouse, Director of Strategic Technology, Imaging & Printing Group,  
Hewlett Packard Company, Corvallis, Oregon

- Out With The Old – In With The New
- Recent Advances In Writing System Performance
- Breakthroughs In Lightfastness For Dye-Based Inks
- New Photo Media Architecture
- Embedded Digital Photography Technologies
- Roadmap For Image Permanence

### INDUSTRIAL INK JET APPLICATIONS PROJECT

Paul Patterson, General Manager IJIA Business Development, Seiko Epson  
Corporation, Beaverton, Oregon

- Implementation Of Industrial Ink Jet Applications Such As
  - Micro Lens
  - Color Filters
  - Metal Printing
  - PDP
  - OLED/OEL
- Technology Suitability & Capabilities
- Laboratory Facilities & Resources
- New Photo Media Architecture
- Opportunities & Challenges

5:30 p.m. Reception

## Tuesday, May 6, 2003

7:00 a.m. Continental Breakfast

8:00 a.m. Session 2  
**Technology Developments & Implementations For Growth Markets**

### OPPORTUNITIES AND DEVELOPMENT CLIMATE FOR GLOBAL INK JET EXPANSION

Gary Swager, Vice President, Jetrion LLC, Ann Arbor, Michigan

- Inhibitors To Growth In Industrial Ink Jet
  - Technical
  - Market
  - Resources
- Review Impact Of Inhibitors
- New Model For Global Market Stimulus

## GLOBAL FLAT BED PRINTER MARKET PROLIFERATES

Scott Schinlever, Vice President of Marketing, Vutek, Meredith, New Hampshire

- An Explosion Of Applications & Substrates: How Customers Use Flatbeds
- Technology Trends & Key Advantages Of Flatbed Technology
- Key Segments, Including Commercial Photo Labs & Graphic Screen Printers
  - Changes In Workflow
  - Business Opportunities & Changing Business Models

## INK JET TECHNOLOGY FOR DIGITAL ELECTRONIC MATERIALS DEPOSITION

Dr. Ross N. Mills, President, imaging Technology international, Boulder, Colorado

- Electronic Applications
- Ink Jet Technology
- "Jetability" Requirements
- Available Printheads
- Deposition & Printing
- Opportunities & Challenges For Ink Jet

## EMERGING APPLICATIONS FOR HIGH PERFORMANCE PIEZO TECHNOLOGY

Howard Baldwin, Vice President of Sales, Spectra, Inc., Downers Grove, Illinois

- Ink Jet OEM Printhead Market Overview
- New Opportunities
- Emerging China
- UV Flatbeds
- Displays & Other Electronics
- The Piezoelectric Micropump
- Printhead Requirements & Recent Advances
- Future Directions

## INDUSTRIAL APPLICATIONS OFFER INK JET INK DEVELOPMENT OPPORTUNITIES

Dr. Alan L. Hudd, President & Chief Technical Officer, Xenxia Technology Ltd., Royston, England

- Jet To Decorate, Coat, Process & Manufacture Products
- Key Chemistry Platforms Such As UV Cure & Solvent Systems
- Obstacles & Successes In Jetting Difficult Materials
- Inks, Coatings, Paints & Direct Metal Printing
- Multi Head High Speed Fixed Arrays To Intricate 3D Product Decoration
- Key Examples

12:00 p.m. Luncheon

1:30 p.m. Session 3

## Technology Developments & Implementations For Growth Markets

### US INK JET MARKET AND TRENDS

John Shane, Director, Communication Supplies Consulting Service, CAP Ventures, Norwell, Massachusetts

- Hardware Forecast
- Supplies Forecast: Inks & Media
- Key Trends
- OEM Vs. Aftermarket

### WHERE'S THE MONEY IN DIGITAL TEXTILE PRINTING?

Teri Ross, President, Imagine That! Consulting Group, Inc., Minnetonka, Minnesota

- Textile Industry Views Digital Printing As Too Expensive & Slow
- Problem Lies With Textile Industry's Approach - Not The Technology
- Business & Financial Model For Conventional Printing Industry
- Wide Format Printing Industry Business & Financial Model: Mass Customization
- Why The Digital Textile Market Has Been So Slow To Develop
- Where Digital Textile Printing Can & Will Find New Revenue Opportunities

## DIGITAL PRINTING OF TEXTILES

Stewart Partridge, Managing Director, Web Consulting Ltd., Wantage, Oxon, United Kingdom

- Why Has Textile Adoption Of Ink Jet Been Slow, So Far?
- Who Is Using Digital Textile Printing Today & Why?
- Why & How Will Textile Ink Jet Growth Accelerate?
- Digital Textile At ITMA 2003
- Assumptions, Forecasts & Projections

**SUPPLIERS' 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, May 7, 2003

7:00 a.m. Continental Breakfast

8:00 a.m. Session 4

### Enhancements To Improve Ink Jet Performance

## ROLE AND IMPORTANCE OF SYSTEM INTEGRATION IN ADVANCEMENT OF THE GLOBAL INK JET INDUSTRY

Dr. Michael D. Stoudt, Chief Technical Officer, Aellora, Keene, New Hampshire

- Why Is Ink Jet "Favored" In More & More Imaging Applications?
- What Does The User Need To Know About Digital Imaging To Make Correct Choices?
- What Is Systems Integration? And Why Is It Necessary?
- What System Components Should The User Have To Worry About?
- Compatibility (Or Not) Of The Integrators Need To Leverage System Development Customer To Customer Vs. The User's Exclusivity
- What About After Installation Service/Support?

## EXTENDING INK JET PRINTING SYSTEM RELIABILITY & PERFORMANCE: INNOVATIVE SOLUTIONS TO SYSTEM INTEGRATION CHALLENGES

Mark Fiscella, President, MEZO Technologies, Inc., Fairport, New York

- Common Issues Affecting System Reliability & Performance
- Controlling Variables
- Performance Factors & Effects Of
  - Maintenance Systems
  - Ink Delivery Systems
  - Hardware & Software Control Systems
- Modular Solutions For Enhanced Printing System Performance

## CHANGING EXPECTATIONS OF INK JET PRINTING

Keith Smith, US Account Manager, Xaar Americas, Chicopee, Massachusetts

- Current Expectations Of Ink Jet
- Key Drivers For High Quality Printing
- What Is 'Greyscale'?
- Greyscale In Practice
- Markets, Inks & Applications

## PRINthead TECHNOLOGY OFFERS INTEGRATED PROVIDER FLEXIBILITY

Haggai Karlinski, Project Manager, Inkjet Heads, Scitex Vision, Netanya, Israel

- Scitex Vison DOD Printhead Technology
- Integrated Provider: Printheads, Matching Inks, Drying Systems, Software...
- Applications: The Requirements & The Potential
- Second Generation Of Printheads

## REDUCING INDUSTRIAL INK JET TOTAL COST OF OWNERSHIP

Steve Liker, Director of Marketing, Trident, Brookfield, Connecticut

- Printhead Reliability
- Repairable Vs. Disposable Printheads
- Maintainability
- Flexibility
- Ink-Ability

12:00 Noon Luncheon & Adjournment

# 10<sup>th</sup> Annual DIGITAL PRINTING SUPPLIES CONFERENCE

## CONFERENCE FOCUS

The 10<sup>th</sup> Annual Digital Printing Supplies Conference will focus on the developments in markets, technology, applications and distribution that are fostering new opportunities and potential profits in the imaging supplies industry. New products, emerging applications, changing user expectations, etc. are all driving changes in digital printing supplies products and markets. Manufacturers and distributors who wish to continue to compete in the digital printing marketplace must stay abreast of these developments.

For example, the increased adoption of color digital printing, the shift from copiers to digital output devices and the penetration of digital printing into conventional printing markets are all placing new requirements on the supplies industry. These changes all require new or improved paper, film, ink and toner products to meet users' requirements as the digital imaging industry moves forward. Distribution channels and user expectations are very different in many of these new application areas.

As the only conference program in 2003 focused on the total digital printing supplies industry, it offers a unique opportunity for paper and film manufacturers and coaters; ink and toner manufacturers; imaging chemicals suppliers, hardware developers; distributors; and end users to join together and obtain a comprehensive assessment of the rapidly developing digital printing supplies industry. In conjunction with IMI's 12<sup>th</sup> Annual Ink Jet Printing Conference on May 5-7, 2003 at the same location, there simply is not a better or more cost effective place to obtain the latest information defining the digital printing industry's future.

## CONFERENCE CHAIRMAN

C. Thomas Ashley, Pivotal Resources USA

## CONFERENCE SPEAKERS

John Blake III, Sensient Technology  
Marco Boer, I.T. Strategies  
Angele Boyd, IDC  
Joseph Chen, MeiJet Coating & Inks  
Merilyn Dunn, CAP Ventures  
Laura Field, Xeikon Digital Papers  
Axel Fischer, INGEDE e. V.  
Graham J. Galliford, Galliford Consulting & Marketing  
Dr. Alan L. Hudd, Xenna Technology  
Kate Johnson, ImageXpert  
Carol Keller, Keller Associates  
Dr. James R. Larson, Xerox  
Dr. Richard J. Larson, Markem  
John McMahon, Eastern Paper  
Velliur R. Sankaran, Sankaran Consulting  
Dr. Bhima Sastri, MeadWestvaco  
John Shane, CAP Ventures  
Paul Yandell, Sericol Imaging

## Wednesday, May 7, 2003

12:00 - 5:00 p.m. Registration

2:00 p.m. Opening Session

### WELCOME AND INTRODUCTIONS

Alvin G. Keene, President, Information Management Institute, Inc., Carrabassett Valley, Maine

### KEY DIGITAL PRINTING SUPPLIES INDUSTRY ISSUES

C. Thomas Ashley, Director, Pivotal Resources USA, Lexington, Kentucky

- The Supplies Business Is THE Business
- Home & Office Print As A Commodity
- OEM's Versus The Aftermarket

### MEDIA CHALLENGES IN DIGITAL PRINTING

Velliur R. Sankaran, Consultant, Sankaran Consulting, Coconut Creek, Florida

- Media Properties: An Overview
- Printer Requirements On Media
- Ink Jet & Toner Based Printers: Media Options
- Perceptual Properties Of Media
- Media For 600 DPI Printing: Simplex & Duplex
- Focused Parametric Studies: Ink Jet & Toner Based Subsystems
- Media For Color Printing
- Post Processes & Interaction With Media
- Where Media & Printer Manufacturers Should Meet For Near Future

### TRENDS IN DIGITAL PRINTING PAPERS

Merilyn E. Dunn, Director, CAP Ventures, Norwell, Massachusetts

- What's Driving The Market For Digital Printing?
- What Demands Do Digital Printing Products Make On Media?
- What Are The Opportunities & Challenges Of Digital Printing?
- Will Growth Come At The Expense Of Traditional Print?

### COATED INK JET MEDIA: AN APPLICATION AND MARKET OVERVIEW

Marco Boer, Consulting Partner, I.T. Strategies, Inc., Hanover, Massachusetts

- Narrow & Wide Format Coated Ink Jet Media Markets: 1991-2003
  - Uncoated & Coated Paper, Coated Film & Other
- Driving Forces In Narrow Format Coated Ink Jet Media & Wide Format Graphics Ink Jet Media
  - Applications
  - Suppliers

### U.S. AND EUROPEAN PRINTER SUPPLIES: OEM VS. AFTERMARKET

John Shane, Director, Communication Supplies Consulting Service, CAP Ventures, Norwell, Massachusetts

- Laser Cartridge Forecast
  - Mono Vs. Color; Aftermarket Share Trends & Forecast; Key Issues
- Inkjet Cartridge Forecast
  - OEM Vs. Aftermarket Forecast; Key Issues; Trends

### CHINA DIGITAL PRINTING MARKET: CHALLENGES AND OPPORTUNITIES

Joseph Chen, Director of Sales and Marketing, MeiJet Coating and Inks, Inc. Qingdao, Shandong Province, P.R. of China

- China Printing Industry Has Undergone Most Rapid Change In World
- From Premium Market (Expensive Imports) To Cheap Domestic Products
- Many Foreign Companies Previously With Large Sales Have Withdrawn
- Financial Problems For Those Dependent On Early Chinese Market
- Chinese Companies Have Shifted Market Focus To Overseas
- Market Focus Shift Poses Challenge To U.S., European & Japanese Manufacturers Whose Innovation Has Created The Market
- Many Opportunities For Those Able To Identify The Trends & Capitalize On Growing Strength Of Chinese Digital Printing Industry

6:00 p.m. Reception

## Thursday, May 8, 2003

7:00 a.m. Continental Breakfast

8:00 a.m. Session 2 – Supplies Markets & Trends

### HARD COPY MARKET: DRIVERS & INHIBITORS

Angele Boyd, Group Vice President, Image Capture & Output, IDC, Framingham, Massachusetts

- Current Application Drivers
- Implications Of Document Solutions
- Where Inhibitors To Growth Are Manifesting Themselves

### COATED SUBSTRATE DEMANDS FOR DIGITAL PRINTING

Dr. Bhima Sastri, Senior Research Engineer, MeadWestvaco Corporation, Laurel, Maryland

- What Constitutes Coated Paper?
- Structure Of Base Paper & Coating
- Coating Related Issues In
  - Electrophotography: Toner Adhesion, Loss Of Gloss & Mottle
  - Ink Jet Printing: Wicking & Feathering
  - High Resolution Color Printing: Heidelberg, Xeikon, Indigo & Xerox
- Ink/Toner/Coating Interactions & New Challenges For Coated Paper

## DIGITAL PRINTING SUBSTRATES: EVALUATION/CERTIFICATION PROCESSES

Laura Field, Vice President, Xeikon Digital Papers, Wood Dale, Illinois

- Presses & Methods Of Testing For Certification
- Considerations For Product Selection
  - Press Operational Limits
  - Material Availability In Marketplace
  - Marketplace Needs
- Cost Analysis
- Xeikon's Qualification/Scripting Process & Reasons For Testing
  - RIT & PIRA
  - Machine, Environment & Substrate: They Effect The Results
  - Application Driven Testing: Specific Markets Require Specific Substrates

## INSPIRE – FUSION OF PAPER AND TECHNOLOGY

John McMahon, Sales Manager, Specialty Papers, Eastern Paper, Amherst, Massachusetts

- Convergence Of Technologies & Communications
- Cross Media Design In Content & Delivery: Email, Web, Video & Print
- Beyond Passive Media: Reactive Media As Design Concept
- Design Considerations & Goals For High Speed Digital Media

## DEINKABILITY OF DIGITALLY PRINTED PRODUCTS

Dipl.-Chem. Axel Fischer, Public Relations, INGEDE e. V. (International Association of the Deinking Industry), Munich, Germany

- Recycling Paper For New Graphic Papers: Issues & Problems
- Influence Of Different Printing Technologies & Ongoing Research Programs
- Paper Recycling: Ink Jet Inks, Toners & Electro Inks
- Products That Are Difficult To Deink & Can Spoil Paper For Recycling
- Industry Seeks To Utilize More Recovered Paper For Higher Quality Products
- Continuous Improvement Of Recyclability Is Necessary
- Industry Must Improve Recycling: Not Create Additional Problems

12:00 Noon Luncheon

1:30 p.m. Session 3 - **Supplies Markets & Trends (cont.)**

## DEVELOPMENTS IN TONER TECHNOLOGY AND MARKETS

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

- The Need For Small Mean Particle Size, Low Energy Consumption, Low Pollution Manufacturing & The Challenges Meeting These Needs
- Improvements Offered By Chemically Prepared Toners (CPT)
- Features Of CPT Technologies: Suspension Polymerization, Emulsion Polymerization & Aggregation and Chemical Milling
- Review Of Current Manufacturing Methods
- R & D Activities In CPT
- Overview Of The Players, Current Commercial Products
- Worldwide Toner Production Volume
- Predictions Of Changes Ahead

## LIQUID TONER TECHNOLOGY AND APPLICATIONS

Dr. James R. Larson, Manager, Xerox Innovation Group, Xerox Corporation, Webster, New York

- Development Of Liquid Toner Processes To Current State-Of-The-Art
- Chemical Composition, Requirements, Manufacture & Characterization
- Custom Color Opportunities
- Safety & Environmental Considerations
- Recent Developments & Patents

## UV INK JET INK TECHNOLOGY, OPPORTUNITIES AND APPLICATIONS

Paul Yandell, Global Business Development, Sericol Imaging, Kent, United Kingdom

- Why Is Ink Jet Industry So Interested in UV?
- Evolution Of UV Ink Jet & Current State-Of-The-Art
- UV System Requirements: Raw Materials, Photoinitiators, Lamps, Etc.
- Design Issues & Challenges For Successful UV Ink Jet Inks
- Development Needs To Achieve Maximum Market Penetration
- Impact Of Successful UV Ink Jet On Markets & Applications

## THE DIGITAL WRITE STUFF: SUCCESSFULLY PARTICIPATING IN THE GLOBAL MARKET FOR AFTERMARKET INK JET SUPPLIES

John Blake III, General Manager, Sensient Imaging Technologies, Escondido, California

- Historical Perspective On Ink Jet Aftermarket Development: From A Component Supplier's Point Of View
- From Analog Stationary Suppliers To Digital Imaging Suppliers
- Refill, Remanufacture & Compatibles: We've Seen It Develop & Change
- Taking A Look At Successful Marketing Strategies, Future Opportunities & The Dynamics Driving Change

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

6:00 p.m. Reception

## Friday, May 9, 2003

7:00 a.m. Continental Breakfast

8:00 a.m. Session 4 – **Future Of Digital Printing Supplies**

## IF INK IS SO PROFITABLE: WHY ARE SO MANY INK MANUFACTURERS FOR SALE?

Dr. Alan L. Hudd, President & Chief Technical Officer, Xenxia Technology Ltd., Royston, England

- The Desktop Ink Jet Business Model
- A Changing Scene Creaking At The Seams
- Review Of Key Players
- Raw Material Suppliers & Forward Integration Strategies
- Capability Vs. Presence Vs. Distribution
- The China Effect
- Who Is Likely To Win?
- Outlook For Ink Supply

## THE HIDDEN COSTS OF THIRD PARTY INKS

Kate Johnson, Director of Engineering, ImageXpert, Nashua, New Hampshire

- Manufacturer's Vs. Customer's Perspective On Performance Specs
- OEM Vs. Third Party Image Quality Assessment Results: What We Measured & Why - Intercolor Bleed, Color Gamut & Text Quality
- Why Measure Image Quality? If It Looks Good, Isn't That Enough?
- Market Opportunities For Ink Makers, Third Party Cartridge Manufacturers & Refillers

## DIGITAL IMAGING WITH LASERS AND INK JET

Dr. Richard J. Larson, Manager Chemical Research & Development, Markem Corporation, Keene, New Hampshire

- Digital Technologies Overview
- Extending The Application Space Of Lasers Via Chemistry
- Laser Imaging System Considerations
- Industrial Phase Change Ink Jet Imaging & Systems
- Industrial UV Curable Ink Jet Imaging & Systems
- Non-Printing Opportunities For Laser & Ink Jet

## EVOLVING INK JET INKS FOR NEW APPLICATIONS

Carol Keller, President, Keller Associates, Winchester, Massachusetts

- Steps In The Evolution
- The Drivers & Barriers
- Today's Ink Advantages & Chemistry: Colorants, Water-Based Ink, Solvent-Based Ink & Radiant Cured Ink
- What Can We Expect In The Future?

## FUTURE DIRECTION OF DIGITAL PRINTING SUPPLIES INDUSTRY

C. Thomas Ashley, Director, Pivotal Resources USA, Lexington, Kentucky

- Where Does Ink Jet Go From Here?
- The Evolution Of Toner Technology
- What Will Be Required Of Paper?
- Will Digital Print On Demand Ever Really Happen?
- Paper-Like Displays, E-Books & Other Electronic Media: What Are They?: Multiple Technologies; How Soon & How Much?
- Industrial Digital Printing - The Next Big Thing?

12:00 Noon Closing Luncheon and Adjournment

## LOCATION

The SunBurst Resort is conveniently located in the heart of Scottsdale, just minutes from Scottsdale Fashion Square, the Arts District, fine dining and championship golf. Each of the SunBurst Resort's guest rooms is an expression of the New West style; open and airy with native fabrics and patterns, delightful terraces, designer bathrooms and all you would expect in the finest resorts. Airport transportation from Phoenix Sky Harbor International Airport is available via SuperShuttle (located outside baggage claim) for \$12 each way. Recreational amenities at The SunBurst Resort include the Pacific Blue Sand Beach Pool, Tropical torch-lit Main Pool, rambling Mediterranean lagoon, partnership with Troon Golf (offering some of area's best courses) and fitness center. The SunBurst Resort ([www.sunburstresort.com](http://www.sunburstresort.com)) plus the Phoenix/Scottsdale area ([www.scottsdalecvb.com](http://www.scottsdalecvb.com)) and the State of Arizona ([www.arizonaguide.com](http://www.arizonaguide.com)) provide an excellent opportunity to extend your visit into a memorable vacation experience. Dress for the **IMI Spring Conferences** will be casual.

The SunBurst Resort address is:

4925 North Scottsdale Road  
Scottsdale, AZ 85251  
Phone: +1-480-945-7666  
Reservations Phone: +1-800-528-7867  
Fax: +1-480-946-4056

## REGISTRATION INFORMATION

Registration Fee:

\$1095 per registrant per conference  
\$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 conference sessions, two continental breakfasts, two lunches, two receptions, coffee breaks, 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.

**To register for any of IMI's April/May Conferences**, submit the registration form with payment to Susan Rundlett, 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@tdstelme.net](mailto:imi@tdstelme.net) or visiting our web site [www.imiconf.com](http://www.imiconf.com)

## REGISTRATION FORM

- 14<sup>th</sup> Annual Thermal Printing Conference**  
April 28-30, 2003
- 2<sup>nd</sup> Annual Photographic Quality Digital Printing Conference**  
April 30-May 2, 2003
- 12<sup>th</sup> Annual Ink Jet Printing Conference**  
May 5-7, 2003
- 10<sup>th</sup> Annual Digital Printing Supplies Conference**  
May 7-9, 2003

NAME \_\_\_\_\_

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

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

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

COUNTRY \_\_\_\_\_

PHONE \_\_\_\_\_ FAX: \_\_\_\_\_

EMAIL \_\_\_\_\_

## THE SUNBURST RESORT

IMI's Spring 2003 **Conferences** are being held at The Sunburst Resort located in Scottsdale, Arizona. Hotel reservations are the responsibility of each meeting registrant. To receive the special meeting rate of \$155 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 April 14, 2003. **Phone +1-800-528-7867 or +1-480-945-7666 to make reservations.**



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.

Information Management Institute, Inc.  
1106 Valley Crossing  
Carrabassett Valley, ME 04947 USA