



14th ANNUAL INK JET PRINTING CONFERENCE

February 7-9, 2005

Tradewinds Island Grand
St. Pete Beach, Florida

sponsored by

Information Management Institute, Inc.

CONFERENCE FOCUS

This unique **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 nonprinting/deposition 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, materials deposition, digital photography, digital printing presses, multifunction printers, printable electronics, 3D modeling, biomedical dispensing, textile printing, packaging printing and many other specialty printing and nonprinting applications are increasingly using ink jet 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 ink jet 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 **14th Annual Ink Jet Printing Conference** provides an 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.

BENEFITS OF CONFERENCE ATTENDANCE

- Participate in the only 2005 U.S. conference program devoted solely to ink jet technology, applications and markets
- Explore the key issues important to your understanding of ink jet printing with your counterparts from all sectors of the ink jet printing industry
- Establish personal contacts with leading technologists, managers and innovators in the ink jet printing industry
- Gain knowledge on the latest ink and media developments and consumables market opportunities
- Learn from interactive sessions and informal discussions of technology trends, applications developments and other aspects of ink jet printing
- Obtain critical insights into technological, application and market developments critical to your company's decisionmaking process relative to ink jet printing and its role in the overall printer marketplace
- Hear industry expert's projections for ink jet printing's opportunities in traditional and growth markets
- Have a complimentary table top display to inform the industry of your products and services
- Give a five minute presentation during the popular Suppliers' Forum

CONFERENCE CO-CHAIRMEN

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

CONFERENCE SPEAKERS

Rob Beeson, Hewlett Packard
Dan Briley, Hewlett Packard SPS
Dr. Jaewoo Chung, Samsung
John Corral, Xennia

Ken Daming, Mark Andy
Mark Elsbernd, Ricoh Printing Solutions America
Michael Flippin, Web Consulting Inc.
Alan Mills, Nordson UV
Dr. John Oliver, Innov8 Solutions
Robert Palmer, Lyra Research
Stewart Partridge, Web Consulting
Chetan Shah, Digital Printing Systems
Stefan Slembrouck, Sun Chemical Europe
Richard W. Stowe, Fusion UV Systems
Steve Temple, Xaar
Marc K. Torrey, Spectra
Peter Walshe, SunJet
Liz Ziepniewski, I. T. Strategies

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Tentative Topic Coverage and Schedule

Monday, February 7, 2005

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

1:30 p.m. Opening Session – **The Expanding Ink Jet Industry**

WELCOME AND INTRODUCTIONS

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

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

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

DIRECTIONS IN INK JET TECHNOLOGY

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

- Latest Products & Announcements
 - Desktop Gets To 1pl Drops
 - Dye-Sub Printing Challenges Ink Jet Photo
- Existing Industrial Applications: Most OEM Needs Met Except Cost
- Emerging Industrial Applications Requirements

- Fixed Heads: Not Just More Nozzles
- Wider Fluid Handling Capability
- Sub-picoliter Drops: The Move To Femoliters
- The Patent Scene
 - Emergence Of MEMS Technology
 - New Players

INDUSTRIAL INK JET MARKET DEVELOPMENT

Liz Ziepniewski, Consultant, I.T. Strategies, Inc., Hanover, Massachusetts

- Relative Size Of All Ink Jet Markets
- Stagnant Growth Of Paper Based Markets
- Increased Competition In Wide Format Markets
- Driving Industrial Ink Jet Development
- Investment Dollars By Key Players
- Top Industrial Markets & Market Sizes

DIGITAL CAMERAS AND PHOTO PRINTING

Robert Palmer, Director Digital Photography Advisory Service, Lyra Research, Newtonville, Massachusetts

- Digital Photos Printed Projected To Grow From 9 Billion in 2003 to Over 31 Billion In 2008
- Where Will Digital Photos Be Printed?
 - Home Printing Leads Today
 - Retail & Online Digital Photofinishing Growing In Popularity
- How & When Will Digital Photo Print Volumes Shift In Future?
- What Barriers To Digital Photo Printing Exist Today?
- What Are Consumers Doing With Their Photos & How Can Vendors Capitalize On Their Behavior?
- Who Are The Market Leaders & Why Are They Leading?

INTEGRATION ISSUES AND OPTIONS FOR NEW APPLICATION IMPLENENTATIONS

Dr. Ross N. Mills, President, imaging Technology international (iTi) Corporation, Boulder, Colorado

- New Applications & Market Requirements Drive Non-Traditional Process And Manufacturing Technology
- Ink Jet For Digital Material Deposition
- Integration Components For Ink Jet Systems
- Tools for Component Evaluation & Process Development
- Ink Jet Integration & Integrators

EVOLUTION OF WIDE FORMAT PRINTING IN CHINA AND SELECTED ASIAN MARKETS

Stewart Partridge, Managing Director, Web Consulting Ltd., Abingdon, Oxfordshire, UK

- How Did 25 Chinese Printer Manufacturers Evolve?
- Consumption Of Printheads, Ink & Media
- Key Results From 2004 Chinese End User Study
- Other Asian Developments In Inkjet Hardware, Ink & Media
- Implications Of Partnerships With Western Manufacturers
- Strategic & Tactical Issues For Asian & Western Manufacturers

6:00 p.m. Reception

Tuesday, February 8, 2005

7:00 a.m. Continental Breakfast

8:00 a.m. Session 2 – **Printhead Technology Advancements
Key to Developing Applications**

DESK-TOP INK JET PRINthead TECHNOLOGY – STATE OF THE ART

Rob Beeson, R&D Competitive Intelligence Team Leader, Hewlett Packard, Corvallis, Oregon

- Comparison Of Ink Jet Printhead Technologies
 - Brother
 - Canon
 - Fuji-Xerox
 - Hewlett Packard
 - Lexmark
 - Ricoh
 - Seiko Epson
- Competing Technologies For Digital Photography
 - Dye Sublimation
 - Polaroid Opal
- Computer Modeling Ink Jet Design Simulation

RICOH PIEZO INK JET TECHNOLOGY FOR INDUSTRIAL APPLICATIONS

Mark Elsbernd, Vice President, Ricoh Printing Solutions America, Inc., Simi Valley, California

- Piezo Printhead Designs
- Ink & Fluid Support Design Considerations
- High Temperature Head Designs

- Integrated Driver Designs
- Custom Configurations
- Future Designs

M CLASS: SPECTRA'S NEXT GENERATION PRINTHEAD FAMILY

Marc K. Torrey, Product Planning & Business Development Director, Spectra, Inc., Lebanon, New Hampshire

- Shaped Piezo Silicon: Breakthrough Technology Using Silicon MEMS
- M-Class Jet Module: Core Building Block For A New Product Family
- M-Class Printhead: Flexible Platform For Broad Range Of Applications
- Getting Started: Development Support Options

INNOVATIVE MEMS-BASED PIEZO INK JET PRINTHEAD TECHNOLOGY

Dr. Jaewoo Chung, Project Leader, MEMS Lab, Samsung Advanced Material Institute of Technology, Suwon, Korea

- Printhead Design & Process
- Printhead Characteristics: High Reliability, High Firing Frequency, High Viscosity Inks & Easy Customization
- Piezo Actuator Estimation
- Fluid Behavior Considerations
- Results
- Potential Applications

STEP-CHANGE DEVELOPMENTS IN PIEZO DOD PRINTHEAD ARCHITECTURE

Steve Temple, Technical Director, Xaar plc, Cambridge, UK

- New Printhead Architecture To Enable Single-Pass Systems Adoption In Production Environments
- Improvements In Quality, Speed & Reliability
- Allows More Prolonged & Stable Jetting Of Wider Range Of Functional Fluids
- Creates Digital Printing Opportunities In Packaging & Emerging Applications Incorporating Printed Electronics, Bio & Nano-Technologies

INDUSTRIAL BULK INK DELIVERY SYSTEM FOR NEW MARKETS & APPLICATIONS

Dan Briley, World Wide Applications Engineering Manager, Hewlett Packard SPS, San Diego, California

- Bulk Ink Delivery System Provides Product Design Flexibility
- Modular Printhead & Ink Cartridge System Enables Large Degree Of

Flexibility

- Manifold Ink Delivery System To Allow For Multiple Printhead And Ink Supply Configurations
- System Enables Remote Location Of Ink Supply
- Minimal Operator Intervention
- Reduced Operations Cost
- Well Suited For Longer Print Runs & High Volume Ink Delivery
- Choice Of Multiple Ink Types And Colors
 - Superior Print Quality On Coated & Uncoated Media
 - Pigmented Black
 - Dye Based Black
 - Spot Colors

12:30 p.m.

Lunch

1:30 p.m.

Session 3 **Newly Developing Markets**

FASTJET: HIGH SPEED DIGITAL PRINTING FOR THE CORRUGATED MARKET

Stefan Slembrouck, Product Director, Sun Chemical Europe, Ternat, Belgium

- Single Pass Digital Print: Technology, Visions, Potentials & Deliverables
- Business Solution For Corrugated Sheet Printing: Capital Expenditure, Maintenance Cost & Applications
- An Enabler For New Marketing Dynamics: Personalization Of Packaging, Brand Protection & Event Promotion
- Marketing Road Map: From Demonstration Of An Innovative Concept To Successful Commercialization Of A Reliable Print Technology

INTEGRATING INK JET INTO TAG AND LABEL MARKETS

Ken Daming, Mark Andy, Inc., Chesterfield, Missouri

- Market Drivers
- Current Solutions
- New Technologies
- Economic Justifications
- Future Directions

INK JET INK DEVELOPMENT FOR HIGH & LOW PRESSURE LAMINATES MARKET

Chetan Shah, Director of Technology and Barry Meyers, President/CEO, Digital Printing Systems LLC, Orangeburg, New York

- Ink Development For Laminate Applications: Plank & Tile Flooring, Wall Paneling, Furniture/Cabinetry, Countertops/Shelving, Transportation Interiors & Specialty Products
- Pigmented Inks Must Print Directly On Variety Of Specialty Substrates (Paper, Vinyl & Nonwovens) Without Special Coatings Or Pretreatment
- Performance Criteria: Must Withstand Fading, Abrasion, Cleaners, Etc.
- Successful Ink Jet Inks Enable Design & Sample Production While Minimizing Cost, Waste & Downtime
- Where Will Digital Technology Lead Us?

U.S. WIDE FORMAT GRAPHICS MARKET: THE TIDE HAS CHANGED

Michael Flippin, Vice President, Web Consulting Inc., Boston, Massachusetts

- Market Growth Amidst Dynamic Change
- Who Will The Future Market Leaders Be?
- Interesting Applications: Roll Vs. Flatbed
- Ink Jet Inks: Who Uses What & Why?
- What About Finishing? Is There Still A Need To Mount & Laminate?

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, February 9, 2005

7:00 a.m. Continental Breakfast

8:00 a.m. Session 4 **Real World Issues Determine Success**

THE MOMENT OF TRUTH: INK JET INTEGRATION & GETTING AN INK TO WORK FOR REAL IN INDUSTRIAL APPLICATIONS

John Corral, Engineering & Production Director, Xennia Technology Ltd. Royston, Hertfordshire, UK

- Where Ink Testing Meets Ink Jet Integration
- Understanding Ink Jet Operating Limitations
- Industrial Dispensing Requirements
- Industrial Applications Examples
- Keeping It Working For The Customer

UV CURING DEVELOPMENTS CAN EXPAND APPLICATIONS

Alan Mills, Business Development Manager, Nordson UV, Slough, Berks, UK

- Using Low Power Systems For “Pinning”
- LED’s – Are They Going To Become A Viable Alternative?
- Single Pass Web Machines Are The Future – Hence Higher Power/More Efficient UV Systems Are Required
- Size Is Everything! Trend In Miniaturization Continues....

OPTIMIZING THE UV INK JET CURING PROCESS TO IMPROVE PERFORMANCE

Richard W. Stowe, Director, Technical Communications, Fusion UV Systems, Inc., Gaithersburg, Maryland

- Expanding UV Ink Jet Applications Require Performance Of Wider Variety Of Substrates For POD, Variable Information, Short-Run Graphics, Etc.
- Dependence Of UV-Cured Ink Physical Properties On
 - How Well Lamp Systems Are Designed & Managed
 - How Well UV Exposure Is Designed For Specific Printer & Printhead Arrangement
- Curing Differences Between Moving-Head & Fixed-Head Systems
- Lamp System Variables
- Ink Design (Spectral Absorbance & “Optical Thickness”) Is Fundamental
- Key Factors Of UV Exposure
 - UV Irradiance (Intensity)
 - Spectral Distribution (Wavelengths)
 - Total UV Energy
 - Infra-red Radiation
- How To Widen Range In Which UV Curing Is Efficient Production Process
- Reasons For Clearly Identifying Factors For Process Optimization

NATURAL SELECTION: CHOOSING THE IDEAL INK TYPE FOR YOUR APPLICATION

Peter Walshe, Business Development Manager, SunJet, Bath, UK

- Choice Of Piezo Ink Jet Formulations Available
- Criteria For Ink Selection In An Ink Jet Print Project
- UV Cure Inks: Are They Really The Answer To Everything?
- The Experience In Conventional Printing Inks
- Developments In DOD Ink Jet Inks

NANOCOLLOID QUANTUM DOT INKS FOR INK JET: RECENT DEVELOPMENTS AND POTENTIAL APPLICATIONS

Dr. John F. Oliver, Innov8 Solutions, Calgary, Alberta, Canada

- What Are Quantum Dots?
- What Is Their Potential Role In Ink Jet Inks?

- Emission & Photophysical Properties
- Colloid Stability & Chemical Functionalization
- Security Applications
- Other Device Applications

12:00 Noon Adjournment

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.

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 **14th Annual Ink Jet Printing Conference** on February 7-9, 2005 at the Tradewinds Island Grand Resort will receive a complimentary copy of the latest edition of the "**Worldwide Printer and Supplies Market Report.**"

RESORT INFORMATION

The **14th Annual Ink Jet Printing Conference** is being held at the Tradewinds Island Grand Resort 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 **IMI's 14th Annual Ink Jet Printing Conference. Early booking is advised**

as the reduced rate is guaranteed only until January 17, 2005. Phone the Group Reservations Department at +1-800-808-9833 (Or +1-727-363-2212 and Ask for Group Reservations) OR Email groupreservations@twresort.com to make hotel reservations.

LOCATION

The Tradewinds Island Grand Resort and Convention Center (www.tradewindsresort.com) is conveniently located on the island of St. Pete Beach on Florida's west coast just 30 minutes from Tampa International Airport via Interstate 275 and 90 minutes from major Central Florida attractions in the Orlando area. The Tradewinds Island Grand spans 18 tropical acres along the white sandy beach of the Gulf of Mexico. Resort guest rooms are generously sized and are decorated in a Key West style – each room is equipped with a wet bar area (coffee maker, refrigerator, microwave, toaster & place setting for four), CD player, iron/ironing board plus each bathroom is equipped with a telephone and hair dryer. The conference hotel room rate includes an amenities package covering unlimited local phone calls, in-room safes, fax sending/receiving, daily newspaper, self-parking and many recreational opportunities (see IMI web site for complete amenities list). Transportation to and from Tampa International Airport is available via SuperShuttle for approximately \$20 one-way or \$35 round-trip (Phone +1-800-571-4222 or +1-727-571-4222 for additional information).

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. Visit the following useful Area Web Sites to identify attractions, activities and events in the area.

City of St. Pete Beach www.stpetebeach.org

St. Petersburg-Clearwater Chamber of Commerce www.floridabeachs.com

City of St. Petersburg www.stpete.org

Tampa Guide www.tampaguide.com

Tampa Bay Guide www.tampabay.com

The Tradewinds Island Grand Resort plus the St. Pete Beach area and the State of Florida (www.flausa.com) provide an excellent opportunity to extend your visit into a memorable vacation experience. Dress for the **14th Annual Ink Jet Printing Conference** will be casual.

The Tradewinds Island Grand Resort address is:

Tradewinds Island Grand Resort & Convention Center

5500 Gulf Boulevard
St. Pete Beach, FL 33706
Phone: +1-727-367-6461
Reservations Phone: +1-800-808-9833
Fax: +1-727-363-2275

Information Management Institute

Information Management Institute, Inc. 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 in a single location over a short period of time thus maximizing information transfer efficiency and minimizing travel and time expenses.

IMI is dedicated to satisfying the information needs of the digital printing industry and publishes an annual **Digital Printing Industry Directory** which provides information on over 500 hardware and supplies manufacturing companies plus over 100 consulting organizations in the digital printing industry.

Details on all of IMI's activities can be found on our web site or by contacting us:

Information Management Institute, Inc.
1106 Valley Crossing
Carrabassett Valley, ME 04947
USA
Phone: +1-207-235-2225
Fax: +1-207-235-2226
Email: imi@imiconf.com
Web Site: www.imiconf.com

REGISTRATION INFORMATION

Registration Fee for **14th Annual Ink Jet Printing Conference**:

\$1095 per registrant

\$995 for each additional registrant from same company
when registered as a group.

The registration fee includes attendance at all conference sessions, two continental breakfasts, two lunches, two receptions and coffee breaks plus the conference reference binder and CD.

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 the **14th Annual Ink Jet Printing Conference**, submit the registration form below 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 or visiting our web site www.imiconf.com

REGISTRATION FORM

14th Annual Ink Jet Printing Conference

February 7-9, 2005

Tradewinds Island Grand Resort

St. Pete Beach, Florida

NAME _____

TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

COUNTRY _____

PHONE _____ FAX: _____

EMAIL _____

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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.