



**6<sup>th</sup> Annual Printable Electronics  
and Displays Conference  
& Suppliers' Fair**  
**October 17-19, 2007**  
**Crowne Plaza Hotel Mid-Peninsula**  
**Foster City (San Francisco), California**

Photo Credit: San Mateo County CVB



IMI's **6<sup>th</sup> Annual Printable Electronics and Displays Conference & Suppliers' Fair** is *the conference of the year* dedicated to all critical aspects of printable electronics and displays. IMI's 5<sup>th</sup> annual meeting and trade fair is an industry led yearly event that leverages years of past expertise in this rapidly evolving industry. This event is designed to bring together experts and leaders in the areas of printable electronic materials, printing systems and printable electronic and display applications from the US, Asia and Europe.

Electronic and display device manufacture is poised to undergo a renaissance through the utilization of low-cost, high-speed printing technology. Over the last several years, with the advent of such technologies as printable organic semi-conductors, high-resolution ink jet printheads and lower cost, robust flexible substrates, just to name a few, manufacture of electronic and display devices by high speed printing is being utilized in commercial environments. This revolutionary shift in manufacturing philosophy will allow for significant cost reductions in existing products like TFT LCDs and hence will allow manufacturers to expand current products into new markets and also develop entirely new, economically viable products such as smart packaging solutions, flexible displays and RFID tags.

IMI's **6<sup>th</sup> Annual Printable Electronics and Displays Conference & Suppliers' Fair** will strategically represent all critical materials, printing and application technologies in this emerging field. Areas which will be addressed include printable conductors, semiconductors, dielectrics and resistors, ink jet, offset lithographic, flexographic and gravure printing as well as application and device manufacturing such as printed circuit boards, RFID tags, displays, sensors, smart packaging and membrane keyboards.

This conference and trade fair, pioneered by IMI in 2002 as the first of its kind, will be a worldwide meeting place for "who's who" in this rapidly evolving new industry. It will allow presenters, attendees and exhibitors to meet, learn and promote their technologies, vision, products and services.

The **Suppliers' Fair** is dedicated to bringing together companies who offer goods and services to the industry and end-users or device manufacturers looking to utilize high speed printing as a manufacturing process. The companies represented in the trade fair are true, reliable commercial suppliers of materials, print systems, hardware and support services. IMI's mission in this trade fair is to aid in fostering this entire industry by developing a platform where commercial suppliers and customers can come together and view products and discuss possible business and technical solutions.

**Conference General Chair**

Dr. Bruce E. Kahn  
Printable Electronics Consulting  
Rochester, New York

**For Latest Program Updates  
&  
To Register Online**

Visit IMI Web Site  
[www.imiconf.com](http://www.imiconf.com)



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Crowne Plaza Mid-Peninsula

Foster City (San Francisco), California

**October 17-19, 2007**

## Wednesday, October 17, 2007

12:00 Noon Registration  
1:30 p.m. Opening Session

### WELCOME AND INTRODUCTIONS

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

### TECHNOLOGY OVERVIEW OF PRINTED ELECTRONICS AND DISPLAYS

Dr. Bruce E. Kahn, Printable Electronics Consulting, Rochester, New York

- Printing Techniques (Ink Jet, Flexo, Gravure, Etc.)
- Applications (Displays, Circuits, Antennas, Packaging)
- Inks & Materials
- Future Trends & Opportunities

### PRINTABLE ELECTRONICS AND FLEXIBLE DISPLAYS: THE SHAPE OF THINGS TO COME

Mark Fihn, Publisher/Consultant, Veritas et Visus, Temple, Texas

- What Is The Printable Electronics & Displays Market & Where Is It Going?
- Potential To Reshape Electronics Manufacturing in
  - Printable Electronic Devices
  - Flexible Displays
  - Solar Cells
  - Signage
  - Clothing
  - Sensors
- Novel Applications That Demonstrate Far Reaching Potential
- Drivers & Barriers To Implementation
- A Vision Of The Future

### INK JETS FOR MANUFACTURING PRINTED ELECTRONICS

Dr. Linda T. Creagh, Business Development Director, Fujifilm Dimatix, Inc., Denton, Texas

- Commercial Opportunity For Ink Jets In Printed Electronics
- Status Of Ink Jets In Manufacturing
- Barriers To New Manufacturing Processes & Tools
- Future For Ink Jet Manufacturing

5:30 p.m. Reception in Exhibit Area

## Thursday, October 18, 2007

7:30 a.m. Continental Breakfast

8:30 a.m. Session 2  
**Printable Electronics & Display Materials**

### FUNCTIONAL MATERIALS FOR PRINTED ELECTRONICS: PRINTING METHODS & FLUIDS

Nigel Caiger, Director, Global Digital Technology, SunJet, Norton, Bath, UK

- Pros & Cons Of Printing Techniques (Screen, Pad, Flexo, Gravure, Reverse, Ink Jet)
- Fluids In Subtractive Applications (Etch & Plating Resists)
- Fluids In Additive Applications (Conductives & Dielectrics)

### CONDUCTIVE METAL INKS FOR DIGITAL & ANALOG PRINTED ELECTRONICS

Dr. Daniel J. Harrison, Vice President, Technical Operations, International Imaging Materials, Inc., Amherst, New York  
Co-Author: Dr. Eric Groat, Director of ND Materials, NanoDynamics, Buffalo, Nw York

- Gravure Printable Inks
  - High Conductivity Silver Based Inks Requiring Low Temp Sintering (<150C)
  - Nano-Particle Silver Dispersed In Organic Solvents & Binders
  - Stable Inks With Excellent Storage Characteristics
  - Can Be Printed In Fine Line Patterns Onto Flexible Substrates For Applications Such As Antennas & Conductive Pathways
- Thermal Transfer Ribbon Inks
  - Silver Based Inks For Conductive Layer On A Thermal Transfer Ribbon With Very Low Surface Resistivities (< 1 ohm/square) With No Sintering
  - Can Digitally Print Conductive Marks On Flexible Substrates

### INTEGRATION OF NEW FUNCTIONAL FLUIDS FOR RELIABLE PRODUCTION PRINTING

Dr. Alan Hudd, CEO, Xenxia Technology Ltd., Letchworth, Hertfordshire, UK

- Evolution Of Ink Jet From R&D To Production Reality
- Overview Of Chemistry & Materials For Ink Jet Printing Of Electronic Devices
- Scope Of The Range Of Chemistries For New Fluids Deposition
- Ink Jet Proposition To Simplify Manufacturing Processes
- Critical Aspects Of System Design For Dispensing New Materials
  - Chemistry Design Reliability
  - Printhead Performance & Suitability (Dimatix, Xaar & Others)
  - Motion Systems (XY Systems Accuracy & Precisions & Scanning / Fixed Array Developments)
- Managing Application Integration For Printed Electronics & Displays Applications
- Outlook & Challenges

### MACHINE VISION INSPECTION & 3D PROFILING FOR PRINTED ELECTRONICS

Yair Kipman, President, ImageXpert Inc, Nashua, New Hampshire

- Machine Vision Overview
- Technology Challenges For Image Based Inspection Of Printed Electronics
- On-Line & Off-Line Inspection

12:00 Noon Luncheon

**Registration Details  
Hotel Information**

All Available on IMI Web Site  
[www.imiconf.com](http://www.imiconf.com)

1:30 p.m. Session 3

### Suppliers' Forum

The Suppliers' Fair segment of **IMI's 6th Annual Printable Electronics and Displays Conference & Suppliers' Fair**, initiated in 2005, is being expanded to allow each participating supplier of materials, print hardware, print systems and support services to the printable electronics and displays industries to give a 15-minute Suppliers' Forum presentation.

These presentations will highlight the suppliers' latest technology developments, product introductions, successful applications, etc. to provide attendees with a broad coverage of the current real world implementation of printable electronic and display technologies.

**To reserve your position in the Suppliers' Fair and Suppliers' Forum**, please complete and submit the registration form below or online and check off the box indicating your participation in the Suppliers' Fair.

**There is no fee in addition to the conference registration fee to have a display in the Suppliers' Fair and to give a Suppliers' Forum presentation.**

Early Confirmed Suppliers Include  
**Buhler**

**Fujifilm Dimatix**

**ICI Imagedata**

**ImageXpert**

**imaging Technology international**

**International Imaging Materials**

**Nordson UV**

**NTERA**

**Pall Corporation**

**Sekisui**

**SunJet**

**Trident Industrial Inkjet – An ITW Company**

**Xennia Technology**

**To reserve your position in the Trade Fair and Suppliers' Forum**, register online at [www.imiconf.com](http://www.imiconf.com) and check off the box indicating your participation in the Trade Fair OR complete the registration form on page 4 and fax it to +1-207-235-2226 OR send and email to [al@imiconf.com](mailto:al@imiconf.com)

5:30 p.m. Reception in Exhibit Area

**Friday, October 19, 2007**

7:30 a.m. Continental Breakfast

8:30 a.m. Session 4

### Printable Electronics & Display Materials CHALLENGES, ISSUES & OPPORTUNITIES FOR PRINTED ELECTRONICS AND DISPLAYS

**Dr. Bruce E. Kahn, Printable Electronics Consulting, Rochester, New York, USA**

- Why Aren't We All Getting Rich?
- How I Can (Help) Make You Rich
- Challenges Related To Materials, Printing & Both
- The Quest For High Mobility

### LAB TO FAB FOR DIGITAL PRINTING OF ELECTRONIC MATERIALS

**Dr. Ross N. Mills, Chairman & Chief Technology Officer, imaging Technology international, Boulder, Colorado**

- Traditional Printing Vs. Digital Fabrication
- Special Requirements For Electronic Materials
- Understanding The Performance Requirements
- Component Selection & Qualification
- Production Environment Implementation
- What Does The Future Hold?

### ALL ADDITIVE INKJET PRINTING FOR FLEXIBLE POLYMER BASED TFT BACKPLANES

**Dr. Ana C. Arias, Member of Research Staff, Palo Alto Research Center, Palo Alto, California**

- Materials Development & Integration
- Printing Process
- Adhesion Layers
- Pixel Design
- Display Integration

### PRINTED ELECTROCHROMIC DISPLAYS: TECHNOLOGY, PRODUCTS, AND MARKETS

**Dr. Alain C. Briançon, Chief Technology Officer, NTERA, Inc., West Conshohocken, Pennsylvania**

- Principles Of NanoChromics™ (NCD™) High Performance Printed Displays
- Wide Range Of Manufacturing Options (Flexography, Silk Screen & Ink Jet)
- Key Printed Architectures & Functionality
- Power Requirements, Ease Of Manufacturing & Tradeoffs Between Manufacturing Efficiency/Yield & Aesthetics
- Integration With Low Power & Low Voltage Electronics (Traditional & Printed)
- Applications: Smart & Bank Cards, Labels & Tags, Personal Electronic Devices, Household Appliances, Electronic Shelf Edge Labels & Industrial Applications Such As Machinery Control Panels
- Recent Prototyping Activities With Printing Partners & Technology Roadmap

### DIGITAL FABRICATION USING FLEXIBLE, INERT PIEZO PRINTHEAD TECHNOLOGY

**Steve Liker, Business Manager, Trident Industrial Inkjet - An ITW Company, Brookfield, Connecticut**

- Manufacturing Challenges
- Precision Fluid Deposition & Coating Needs
- Ink Jet Technology As Solution
- Providing Flexibility & Control
- Future Printhead Needs

1:00 p.m. Adjournment

**Visit [www.imiconf.com](http://www.imiconf.com) for all programs and registration details**

## Don't Miss IMI & IMI Europe's Other Upcoming Programs

**3rd Ink Jet Technology Integration Symposium**  
October 15-16, 2007 - San Francisco, California

**Ink Jet Academy: Theory of Ink Jet Technology**  
October 29-30, 2007 - Baltimore, Maryland

**4th Security Printing Conference**  
October 31-November 2, 2007 - Baltimore, Maryland

**Ink Jet Academy: Theory of Ink Jet Technology**  
November 5-6, 2007 - Barcelona, Spain

**UV Ink Jet Printing Course**  
November 5-6, 2007 - Barcelona, Spain

**15th Annual European Ink Jet Printing Conference**  
November 7-9, 2007 - Barcelona, Spain

**Ink Jet Academy: Practice of Ink Jet Technology**  
November 19-22, 2007 - Manchester, UK

**Digital Printing Presses - The Next Era Conference**  
December 3-5, 2007 - Orlando, Florida

**3rd Engineered Fine & NanoParticle Applications Conf**  
December 5-7, 2007 - Orlando, Florida

**11th Toner & Toner Chemicals Conference**  
Jan 30 - Feb 1, 2008 - Orlando, Florida

**Ink Jet Academy: Theory of Ink Jet Technology**  
February 4-5, 2008 - Orlando, Florida

**17th Ink Jet Printing Conference**  
February 6-8, 2008 - Orlando, Florida

**19th Thermal Printing Conference**  
May 19-21, 2008 - Mesa, Arizona

**2nd RFID Technology Integration Symposium**  
May 19-21, 2008 - Mesa, Arizona

**Ink Jet Academy: Theory of Ink Jet Technology Ink Jet Components, Consumables, Equipments India 2008**  
June 26-28, 2008 - New Delhi, India

**Ink Jet Technology Suppliers Showcase 2008**  
Spring 2008 Dates & U.S. Location to be Announced

## REGISTRATION INFORMATION: IMI's Printable Electronics Program



Registration Fees: \$1095 per registrant  
\$995 for each additional registrant from same company when registered as a group

The registration fee includes attendance at all sessions, all scheduled program functions and the program reference binder/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 program will be charged a \$300 cancellation fee, but will receive a copy of the conference binder/CD.

**To register**, 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)

### REGISTRATION FORM

#### 6<sup>th</sup> Annual Printable Electronics and Displays Conference & Suppliers Fair

October 17-19, 2007

Check here to reserve a free display space in the Suppliers' Fair and a 15-minute Suppliers' Forum presentation.

NAME \_\_\_\_\_

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

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

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

COUNTRY \_\_\_\_\_

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

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I Want to Pay by Credit Card

Please Invoice Me

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.

### SUPPLIERS' FAIR – FREE DISPLAY OPPORTUNITY

**IMI's 6<sup>th</sup> Annual Printable Electronics and Displays Conference & Suppliers' Fair** was the world's first, true commercially oriented boutique trade fair for the printed electronics and displays industry. The Trade Fair features suppliers of materials, print hardware, print systems and support services to the printable electronics and displays industries. Each Trade Fair participant also has the opportunity to give a 5-minute Suppliers' Forum presentation.

IMI will cooperate with all interested parties to provide appropriate space so products can be displayed and demonstrated at the Trade Fair during the conference breaks and receptions. **There is no fee in addition to the conference registration fee to have a display in the Trade Fair and to give a Suppliers' Forum presentation.**

**To reserve your position in the Trade Fair and Suppliers' Forum**, please register online and check off the box indicating your participation in the Trade Fair OR complete the registration form above and fax to +1-207-235-2226 OR send and email to [al@imiconf.com](mailto:al@imiconf.com)

### Crowne Plaza RESERVATION INFORMATION

This IMI program is being held at Crowne Plaza Hotel Mid-Peninsula in Foster City, California - 7 miles south of San Francisco Airport. Hotel reservations are the responsibility of each meeting registrant. To receive the special meeting rate of \$149 for single or double occupancy – **Call +1-650-570-5700 – Ask for Reservations AND REQUEST GROUP BOOKING CODE JIS. Early booking is advised** as the reduced rate is guaranteed only until September 30, 2007.

**To make hotel reservations online**, go to the Crowne Plaza – Mid Peninsula Web site [www.crowneplaza.com/sfo-peninsula](http://www.crowneplaza.com/sfo-peninsula) and

1. Click on "Book Online" top right center of screen
2. On next screen – Fill in Traveler Dates and Traveler Information
3. Expand information under "Corporate, Group & IATA Identification by clicking on + sign
4. Enter **JIS** in Group Booking Code field
5. Scroll down to bottom and click on "FIND HOTELS"
6. Select the desired room and proceed through reservation procedure.

**Complimentary airport service to and from San Francisco International Airport is offered from 6:00 a.m. to 11:00 p.m.** Contact the Crown Plaza Hotel Mid-Peninsula at +1-650-570-5700 for additional details.

