



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



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

**Tremont Plaza Hotel
Baltimore, Maryland**

Rapid advancements in all aspects of security printing and security features plus the international focus on all aspects of security in today's world have created a rapidly growing demand for physical, document and identification security. Advancements in digital printing and technologies for incorporating security features, while spawning new modalities and efficiencies for security printing, have also enabled counterfeiters as well as legitimate issuers. From brand protection and secure access to ID's, tickets, travel documents, etc. - physical and digitally printed security images, features and data are converging in ways never before imagined. This convergence of once separate technologies is creating both challenges and market opportunities for effective integration of digital printing with physical security devices in a wide range of market specific applications.

IMI's **4th Annual Security Printing Conference** will address the challenges and opportunities in dealing with security issues and enabling brand protection for products and production of secure documents for a wide variety of applications including business documents, ID's, currency, gaming/event tickets, travel documents, etc. Industry experts will address digital printing technologies' capabilities and shortcomings relative to printing secure output and the technology options available to enhance the production of secure documents and devices of all types. The conference program will provide a critical assessment of forensic analysis requirements, enhanced ink and media systems, document traceability technologies, software solutions and other potential avenues to enhance product and document security.

This unique conference is designed to educate and inform industry leaders and technologists at all levels in the supply chain of security printing of the difficulties and business opportunities for combining digital and physical security printing on an application specific basis. If your business or products' future is dependent on finding effective ways to utilize physical features and digital security printing, or finding cost effective methods to stay ahead of counterfeiting, tampering and forgery, you will benefit from attending this conference.

Don't miss this opportunity for digital printing technologists, security agency personnel, security organizations, hardware vendors, consumables suppliers, converters, component/software suppliers and end users to communicate and address the urgent issue of product and document security.

Conference Displays & Suppliers' Forum

IMI's **4th Annual Security Printing Conference** provides the opportunity to have a free display space to exhibit your products, technology or services. Each conference registrant also has the opportunity to give a commercial 5-minute Suppliers' Forum presentation.

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

To reserve your complimentary display space and Suppliers' Forum presentation slot, please register online and check off the box indicating your participation OR complete the registration form above and fax to +1-207-235-2226 OR send an email to al@imiconf.com

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

A 1 ½ day comprehensive course describing the basics plus the latest advances in ink jet and ink technologies, led by Mike Willis of Pivotal Resources and Dr. Alan Hudd of Xennia Technology. In eight years, over 1,300 have attended this broad and up to date introduction to this fast growing technology. See www.imiconf.com for the entire course content. (**See Page 3 for more details**)

**Conference Chairman
Harold Schofield
Schofield Imaging Associates
Narragansett, Rhode Island**

**For Latest Program Updates &
To Register Online**
Visit IMI Web Site
www.imiconf.com

**Tremont Plaza Hotel
Baltimore, Maryland**

Wednesday, May 17, 2006

12:00 Noon Conference Registration

2:00 p.m. Session 1
Security Printing: Why Are We Interested?

WELCOME AND INTRODUCTIONS

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

Harold Schofield, Schofield Imaging Associates, Narragansett, Rhode Island

SECURITY PRINTING IN PERSPECTIVE

Harold Schofield, Schofield Imaging Associates, Narragansett, Rhode Island

- Security Printing Overview & Development
- Transition To Digital Printing Of Documents
- Protecting Against Alteration & Counterfeiting
- Trends & Technology For Digital Document

Security

- Security Market Perspective
- Security Printing Economics: What Are The Costs & Who Pays?
- Conference Highlights

NASPO'S EFFORTS TO ENABLE SECURE PRINTED PRODUCTS

David Lightfoot, Member, Executive Board, North American Security Products Organization (NASPO), Washington, DC

- Requirement For Secure Printed Products
- Security Printing Issues & Concerns
- NASPO's Role
- Standards Efforts
- Programs & Results In Developing Certified Product Providers

SECURITY ELEMENTS AND FEATURES FOR ID CARDS

Gerald Hubbard, Government Business Development Manager, Datacard, Arlington, Virginia

- Security Requirements For An ID Document
- High Level Review Of Threats
- Need To Consider The Secure ID As A System
- Threat Analysis For The ID Program
- System Design, Audit & Quality

FOOD DEFENSE: URGENT NEED FOR ACTION

Peter D. Gabriele, Technical Director, ARmark™ Authentication Technologies, Glen Rock, Pennsylvania

- Agriculture & Food Chain Security Has Become "Food Defense" (Bioterrorist Act Of 2002, Homeland Security Act Of 2002, BioShield Act Of 2004 & Executive Actions)
- Brand Owners & Manufacturers Required To Manage & Verify Supply Chain Violations In Event Of Breach
- New Packaging Technologies Are Emerging For Medical, Pharmaceutical & Luxury Products
- Unmet Need Exists In Agriculture & Food Science That Requires Immediate Attention
- Integration Of Covert Microtag Technology Into Content & Package As Security That Remains With Product Until Consumer Use
- Integration Of Covert High Definition Content Relevant Informational Microtags Into Print Processes To Strengthen Authentication & Brand Management

5:30 p.m. Reception

Thursday, November 1, 2007

8:00 a.m. Continental Breakfast

9:00 a.m. Session 2
Security Printing Issues & Options

METHODOLOGY FOR SECURE CREDENTIALS

Dr. Mohamed Lazzouni, Senior Vice President & CTO, Viisage, An L1 Identity Solutions Company, Billerica, Massachusetts

- Ascertaining The Correct Balance Of
 - Security Features
 - Their Application In Raw Materials
 - Personalization Process
 - Data Fields
- Methods & Tools Used To Create Solution That Interlinks & Meshes Total & Holistic Security Offering
- Obtaining Best Value That Enhances Security, Durability & Deters Threat & Cannibalization Attacks

NEW INNOVATIONS IN SECURITY INKS FOR IDENTIFICATION & OTHER SECURE PLASTIC CARDS

Tom Jay, Vice President, Sales & Marketing, SICPA Securink Corporation, Springfield, Virginia

- Given Time, Resources & Inclination – The Integrity Of Any ID Card Or Document Can Be Compromised
- Very Real Need For Security Ink Printing Applications
- What's Available On The Market Today
- Features Available
- Why Multiple Layers Of Protection Make For More Secure Credentials

INK JET PRINTING & SECURITY APPLICATIONS

Dr. Alan L. Hudd, President & Chief Technical Officer, Xenia Technology Ltd., Royston, UK

- A Decade Of Little Success
- Ink Jet Is Potentially A Perfect Technique For Many Covert & Overt Security Applications?
- Technology Solutions
- Security Materials & Chemistries Suitable For Ink Jet (MICR, Bio, Optical & Printed Electronics)
- Security Is A Value Add To The Ink Jet Proposition For Product ID, Production Line Trace (Such As RFID)
- Outlook For Ink Jet & Security Applications

12:00 Noon Luncheon

1:30 p.m. Session 3 – **Forensic Analysis Tools, Techniques & Needs**

THE NECESSITY OF SECURITY PRINTING FOR THE FORENSIC SCIENTIST

Jeff Payne, Document Analyst, Questioned Document Branch, U.S. Secret Service, Washington, DC

FORENSIC ANALYSIS PANEL DISCUSSION

Panel Comprised of Selected Agency Representatives and Speakers

- Tracking & Identifying Counterfeit Products & Documents
- Forensic Tools & Procedures For Identifying Counterfeit Products & Documents
- Forensic Issues For Ink Jet, Thermal, Laser, Etc. Technologies
- Use Of Comparative Databases For Forensic Analysis
- Development Of Investigative Leads & Evidence

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

Program continued on next page



Friday, November 2, 2007

8:00 a.m. Continental Breakfast

9:00 a.m. Session 4

Do New Security Printing Techniques Offer Economically Viable Solutions?

LAYERED SOLUTIONS FOR AUTHENTICATING AND TRACKING

Richard H. Ward, CFC, Senior Business Development Manager, Appleton Technical Papers, Appleton, Wisconsin

- Integrated Security Solutions Using Secure Substrates
- Authentication Technologies
- Ink Jet Applied Features For Authentication & Tracking
- Typical Applications: Revenue Stamps, Goods & Identity Documents
- ROI Model Using Real Numbers From Case Studies

INK JET PRINTING MATERIALS FOR SECURITY DOCUMENTS

Dr. Jan Sumerel, Manager, Biomedical Sciences, FUJIFILM Dimatix, Inc., Santa Clara, California

- Ink Jet Printing Is Viable Method For Applying Functional Materials That Can Be Utilized As Stealth Tags
- Have Used To Make Patterned Thin Films Of Biomolecules, Inorganic Particles, & Organic Polymers
- Fluid Formulation Is Key Parameter That Determines Electromechanical Jetting Success & Substrate Fluid Interactions After Printing
- Have Formulated Variety Of Inks For Printing Of Nanomaterials (Silver, Gold, DNA, Peptides, Proteins, Dendrimers, Quantum Dots & Carbon Nanotubes)
- Future Direction: Integrate These Additive Process & Couple Them To Security Applications

SMART CARDS IN IDENTIFICATION

Patrick W. Hearn, Director, Government ID Markets -America's, Oberthur Card Systems, Chantilly, Virginia

- Technology Overview
- Current Programs In U.S. & Around The World
- FIPS 201-1
- Review Of Registered Traveler Program
- Operating Systems Platforms
- Current Market Uses

DIGITAL WATERMARKING TECHNOLOGY & ITS APPLICATION IN SECURITY PRINTING

Jeffrey Long, Director of Business Development, Digimarc Corporation, Beaverton, Oregon

- What Is Digital Watermarking Technology?
- How Digital Watermarking Can Cost Effectively Enhance The Authentication Of Drivers Licenses & Other ID's Helping Combat Counterfeiting, Underage Drinking & Driving And Contributing To National Security & Transportation Safety
- Why Machine Readable Digital Watermarks Are Uniquely Suited For Securing ID Documents Because Of Their Covert, Cross-Jurisdictional Inspection Capabilities
- How U.S. States Are Currently Embedding Digital Watermarks In Their Driver Licenses
- Printing Methods For Secure Digital Watermarks (Varying From Ink Jet, Laser Printing Or Dye Sublimation To Other Forms Of Color & Gray Scale Printing)

1:00 p.m. Adjournment

Ink Jet Academy: Theory of Ink Jet Technology

October 29-30, 2007

Monday, October 29, 2007

11:00 a.m. Registration

1:00 p.m. Opening Session

WELCOME & INTRODUCTIONS

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

INTRODUCTION

- Course Overview
- Types Of Ink Jet Technology
- Brief History
- Drop On Demand Technologies
- Thermal & Piezo Ink Jet
- State Of The Art
- Office & SOHO Markets & Applications

INDUSTRIAL APPLICATIONS

- Industrial Drop On Demand
- Continuous Ink Jet
- Industrial Applications

INK TECHNOLOGY

- Evolution Of Ink Jet Inks
- Ink Jet Ink Formulations
- Ink Types & Properties
- Aqueous Based
- Oil-Based
- Solvent-Based
- Phase Change
- UV Curable

DOD PRINthead DESIGNS AND VENDORS

- Thermal Ink Jet
- Piezo Ink Jet
- Moving Wall Technology

5:30 p.m. Reception

Tuesday, October 30, 2007

8:30 a.m. Continental Breakfast

9:00 a.m. Session 2

MATERIALS FOR INK JET INKS

- Critical Materials
- Colorants
- Polymers
- Solvents & Additives
- Vendors & Ink Distribution Chain

DOD PRINthead DESIGN CONSIDERATIONS

- Drop Ejection Frequency
- Crosstalk
- Printhead Life
- Temperature Control
- Drop Placement Accuracy
- Considerations For Page Arrays
- Greyscale Techniques
- Drive Waveforms

MEDIA & PRINT QUALITY

- Paper & Coatings
- Drying Mechanisms
- Light & Waterfastness
- Non-Paper Media
- The 3 Factors Affecting Print Quality
- Technologies To Improve Print Quality
- Improving Print Quality

UV CURING TECHNOLOGY

- Chemistry Of UV Curing
- Ink Formulation Issues For Piezo DOD
- UV Curing Systems

12:00 Noon Lunch

1:00 p.m. Session 3

SYSTEM DESIGN ISSUES

- Nozzle Maintenance
- Drop Detection
- Filling/Bubble Removal
- Ink Supply & Replacement

INSTRUMENTATION FOR INK JET DEVELOPMENT

- Reliability
- Jet Characteristics
- Quality Control

FUTURE DEVELOPMENTS

- Evolution Of Current Technology
- New Developments
- Status & Developments Of Ink Technology

5:00 p.m. Adjournment

Course Leaders

Dr. Alan L Hudd, President & Chief Technical Officer, Xennia Technology Limited, Letchworth, Hertfordshire, UK

In 1996, Dr. Hudd founded Xennia Technology; the world's first independent contract ink jet technology house dedicated to the industrial and office inkjet industries. Since then, Dr. Hudd has grown Xennia into a leading player in the rapidly emerging market for industrial inkjet technologies. Under Dr. Hudd, Xennia has developed a unique set of inkjet chemistry, engineering and problem solving capabilities that has resulted in a number of important technology innovations, especially in the field of inkjet dispensing of difficult materials. Prior to establishing Xennia, Dr. Hudd was for 8 years the Fluids Technology Manager at Domino Printing Sciences, developing a wide range of inkjet inks for diverse applications and is credited with a number of patents and significant innovations within the industrial inkjet industry. He spent almost eight years with the Ministry of Defence and Royal Ordnance in the UK, developing new solid polymer rocket propellants for air to air missiles. Dr. Hudd graduated with B.Sc. Honours degree in Chemistry and Physics, M.Sc and Ph.D research degrees in Polymer Chemistry from Manchester University.

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

Mr. Willis is Founder and Managing Director of Pivotal Resources, an international marketing technical consultancy specializing in electronic printing and the graphic arts. In addition, he is the publisher of *Directions*, a service which monitors patents, research papers and significant product launches in the electronic printer market.

During the past twenty years, Mr. Willis has been based in Cambridge working as an engineer and consultant for a large number of clients in a variety of roles. For eight years, he was Consultant, then Group Leader of Digital Printing at Cambridge Consultants, a subsidiary of Arthur D. Little. He has led several major development contracts for electrophotographic printers, based on LED and light valve imaging systems, and for the development of a major new office ink jet technology.

In 1990, Mr. Willis was a founder member of Xaar, a company set up to exploit high resolution piezo ink jet technology. He graduated from the Polytechnic of Central London with Honours in Photographic Sciences.

REGISTRATION INFORMATION: 4th Annual Security Printing Conference & Ink Jet Academy: Theory of Ink Jet Technology



Registration Fees: \$1095 per registrant per program
\$995 per program 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 materials. 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.

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 or visiting our web site www.imiconf.com

REGISTRATION FORM

4th Annual Security Printing Conference
October 31-November 2, 2007

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

NAME _____

JOB TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

COUNTRY _____

PHONE _____ FAX: _____

EMAIL _____

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Tremont Plaza Hotel Information

IMI's **4th Annual Security Printing Conference and Ink Jet Academy: Theory of Ink Jet Technology** are being held at the Tremont Plaza Hotel in Baltimore, Maryland. Hotel reservations are the responsibility of each meeting registrant. To receive the special meeting rate of \$159 for single or double occupancy, you must call 1-800-TREMONT (800-873-6668) +1-410-727-2222 to make hotel reservations. **Early booking is advised** as the reduced rate is guaranteed only until October 9, 2007.

The Tremont Plaza Hotel, an all suite hotel, www.1800tremont.com is located in the heart of Baltimore's thriving downtown business and cultural district and only four blocks from Baltimore's famous Inner Harbor, National Aquarium, Science Center plus exciting shopping, dining and historical sites – yet only 10.5 miles from Baltimore-Washington International Airport.

Conference sessions will be held in the historic charm and modern convenience of the Tremont Plaza Hotel's newly restored Tremont Grand meeting facilities. Built by the Freemasons as the Grand Lodge of Maryland in 1866, the building was acquired by the Tremont Suite Hotels in 1998 and carefully restored to its original grandeur and reopened as a meeting facility in 2005.

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

Don't Miss IMI's Other Upcoming Programs

3rd Ink Jet Technology Integration Symposium
October 15-16, 2007

6th Annual Printable Electronics and Displays Conference & Suppliers Fair
October 17-19, 2007

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

4th Annual Security Printing Conference
October 31-November 2, 2007

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

11th Annual Toner & Toner Chemicals Conference
January 30-February 1, 2008

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

17th Annual Ink Jet Printing Conference
February 6-8, 2008

19th Annual Thermal Printing Conference
May 19-21, 2008

2nd Annual RFID Technology Integration Symposium
May 21-22, 2008

IMI Europe Programs

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

UV Ink Jet Printing Course
November 5-6, 2007

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

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

Visit www.imiconf.com for program and registration details