Information Management Institute

1st Digital Manufacturing Conference

Opportunities for Manufacturing Rebirth

June 22-24, 2011

Hollywood Beach Marriott

Hollywood (Ft. Lauderdale), Florida

We are all aware of the decline in American (and other developed nations) manufacturing industries over the past few decades. Yet, everyone agrees that manufacturing growth, jobs, etc. are essential to revitalizing the world economy.

Digital manufacturing is a potential valuable contributor to the rebirth of manufacturing by utilizing the available technologies to efficiently (in terms of cost, time & materials) manufacture products. We need to work not only hard, but smart, to realize the potential benefits offered by digital manufacturing technologies.

What is Digital Manufacturing? Digital Manufacturing is a collective term that encompasses numerous technologies utilized to produce products from digital files. Examples of terms which we define as being various forms of digital manufacturing include 3D Printing, Additive Manufacturing, Rapid Prototyping, Rapid Manufacturing, Personal Manufacturing and Layered Manufacturing among others – all of which manufacture end products from a digital file using computer controlled devices in a primarily additive process -rather than subtractive processes typically utilized in traditional manufacturing (milling, machining, etc.)

Technologies currently being utilized for digital manufacturing include stereolithography, ink jet printing, selective laser sintering, fused deposition modeling, aerosol jet deposition, solid ground curing, laser engineered net shaping and ultrasonic consolidation among numerous others. Digital Manufacturing is being utilized in numerous industries including aerospace, automotive, biomedical (dentistry, prosthetics, tissue, etc.), composites, construction, consumer goods, energy, jewelry, machine tool, military/defense and many others. Manufacturers cite advantages and benefits such as the following for their implementation of Digital Manufacturing technologies:

- Precision Individualized Products
- Minimal Inventory Costs (Space, Overhead & Product Costs)
- Materials Conservation (No or Minimal Machining/Finishing Waste)
- Increased Design Flexibility
- On-Demand Production
- Time Savings (Design, Prototyping & Production)
- Production of Products Not Conventionally Manufacturable (Complex Shapes, Internal Voids, Layered Structures, etc.)
- Centralized Design & Remote or Distributed Manufacturing
- & More!

IMI's **1st Digital Manufacturing Conference–Opportunities for Manufacturing Rebirth** will explore the current digital manufacturing technologies, application opportunities, challenges, needed improvements to enhance implementation, economics and other factors essential to the growth and expansion of Digital Manufacturing.

IMI conference programs bring together delegates from diverse cross sections of the topic industry and 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. Conference participation will enable attendees to meet with the digital manufacturing 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.

Conference Displays & Suppliers' Forum

IMI's 1st Digital Manufacturing Conference - Opportunities for Manufacturing Rebirth 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 on page 3 and fax to +1-207-235-2226 OR send an email to **al@imiconf.com**

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Wednesday, June 22, 2011

11:00 a.m. Registration

2:00 p.m. Opening Session

Digital Manufacturing's Role in Evolving Manufactuirng Environment

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

Additive Manufacturing 101: How the Future of Product Development & Manufacturing is Changing
Jonathan L. Cobb, Vice President Marketing, Stratasys, Eden Prairie, Minnesota
- How Additive Manufacturing can help Designers Create Better Products
- Why Additive Manufacturing gets Products to Market Faster & Cheaper
- How Companies like BMW, GM & Boeing use Additive Manufacturing
- What's in Store for Additive Manufacturing in the Future

Building Manufacturing Processes & Products Drop by Drop
Dr. Alan L. Hudd, President & Chief Technical Officer, Xennia Technology, Letchworth, Hertfordshire, UK
- The Ink Jet Proposition as a Manufacturing Technique
- Creating New Products through Technology Push & Market Pull
- Technology Requirements & Challenges
- Ink Jet & New Functional Materials as Part of Developing Application Processes
- Outlook for Device & Product Fabrication

Ink Jet: Will it be Successful Digital Manufacturing Technology?
Mark Hanley, President, I.T. Strategies, Hanover, Massachusetts
- Worldwide Digitization Drives Digital Manufacturing
- Ink Jet as a Manufacturing Technique
- Ink Jet's Relative Strengths
- Ink Jet's Early Achievements
- Ink Jet's Development Path
- Can it Compete with More Established Digital Manufacturing Technologies?

5:30 p.m. Networking Reception in Display Area

Register Now
Online at **www.imiconf.com**
Call +1-207-235-2225
Fax: +1-207-235-2226
Email: **imi@imiconf.com**

Thursday, June 23, 2011

8:00 a.m. Breakfast

9:00 a.m. Session 2

Digital Manufacturing Technologies

Technologies & Applications for Digital Fabrication Technologies
Vince Cahill, VCE Solutions, Waynesboro, Pennsylvania
- Technologies for Digitally Controlled Depostion & Fabrication: Stereolithography, Selective Laser Sintering & Melting, Electron Beam Melting, Electron Beam Freeform Fabrication, Fused Deposition Modeling, Shape Deposition Manufacturing, Laminated Object Manufacturing, Solid Ground Curing, 3D Inkjet, Polyjet Matrix Printing, Robocasting & Shape Deposition Manufacturing
- Capabilities & Limitations of Each Technology
- Effectiveness for Product Manufacturing Applications

Digital Fabrication from Prototyping to Production with Ink Jet
Yuan (Charlie) Chang, Vice President of R&D, Amica Systems, Irvine, California
- New Ink Jet Process for Product Decoration
- The Myth of Ink Jet Cost & Barriers
- Rapid Prototyping & On Demand Production
- New Trends & Ideas Transforming Noncompetitive Products

12:00 Noon Luncheon

1:30 p.m. Session 3

Digital Manufacturing Applications, Successes & Potential

Direct Digital Manufacturing of Airfoils through Large Area Maskless Photopolymerization
Dr. Suman Das, Professor and Director, Direct Digital Manufacturing Lab, Woodruff School of Mechanical Engineering, Georgia Institute of Technology, Atlanta, Georgia
- DARPA sponsored Direct Digital Manufacturing (DDM) of Airfoils Project Disrupts state-of-theart Casting Processes
- DDM is Achieved by Processing Photocurable Ceramic Resins through New Large Area Maskless Photopolymerization (LAMP) Technology
- LAMP combines Layered Manufacturing of Complex 3D Objects with Fine Resolution & High Throughput UV Imaging
- DDM of Airfoils will Eliminate nearly all Tooling, Handling & Associated Scrap in traditional Investment Casting Processes
- Disrupts Not Only Conventional Investment Casting Cost Structure – But Also New Component Design Prototyping, Testing & Mass Production
- Current LAMP Technology Status & Future Directions
- Application Potential for Airfoil Designs Plus DDM of other High-Precision Polymer & Ceramic Components across Industry Boundaries

Utilization of Ink Jet in Manufacturing Applications
Jali Heilmann, Senior Research Scientist, VTT Information Technology, Espoo, Finland
- Benefits of Ink Jet in Digital Manufacturing
- Ink Jet Manufacturing Devices & Materials
- Challenges for Ink Jet to Meet Manufacturing Application Requirements
- Case Studies of Ink Jet Manufacturing

Membrane Keypad Manufacturing Using Only Ink Jet Technology
Darrell Etter, Customer Support Engineer, FUJIFILM Dimatix, Santa Clara, California
- New Developing Technologies in Printed Electronics Field have Emerged
- Membrane Switch Manufacturing Using Jettable Fluids for all Process Steps is Quite Achievable
- Process Development Steps to Successfully Produce Membrane Switches Using a Single Ink Jet Printer
  - Identifying & Choosing the Appropriate Conductor, Dielectric & Adhesives
  - Identifying & Selecting the Proper Substrate
  - Determining the Deposition Sequence of these Materials
- The Ultimate Solution

Suppliers Forum Presentations
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. Networking Reception in Display Area

Conference Speakers

Vince Cahill, VCE Solutions
Yuan (Charlie) Chang, Amica Systems
Jonathan L. Cobb, Stratasys
Dr. Suman Das, Georgia Institute of Technology
Darrell Etter, FUJIFILM Dimatix
Mark Hanley, I.T. Strategies
Jali Heilmann, VTT Information Technology
Dr. Alan L. Hudd, Xennia Technology
Rajeev Kilkarni, 3D Systems Corp.
Jon Riley, National Center of Manufacturing Sciences
and
More to be Named

Friday, June 24, 2011

8:00 a.m. Breakfast

9:00 a.m. Session 4

Advancing Digital Manufacturing: What's Next?

Digital Manufacturing: The Future of Innovation
Rajeev Kulkarni, Vice President of Engineering, 3D Systems, Rock Hill, South Carolina
- Not as new as you might think – 25 Years of Progress
- Founding of the Industry
- Manufacturing Industry's Analog to Digital Transition
- Technology, Materials & Supporting Infrastructure Trends
- Changing Product Development
- Just in Time Manufacturing
- What Will the Future Hold?

Transforming the Way America Builds: Implementation Roadmap for a National Innovation
Jon Riley, Executive Director for Design & Engineering Programs, National Center of Manufacturing Sciences, Ann Arbor, Michigan
- Digital Manufacturing Infrastructure is Critical to the Future of American Industry – just as the Assembly Line & Electric Power Infrastructure were Keys to Strong Manufacturing Base a Century Ago!
- Economic Uncertainty & Leaden Growth have Slowed Innovation
- BUT - Access to Cutting Edge Tools (such as High Perfor mance Modeling & Simulation) Provide a Bold Path Forward - essentially Transforming the Way America Builds
- Focus on Job Creation by nearly 300,000 Small/Medium Sized U.S. Manufacturing Companies
- The Strategy: National Innovation Network – Predictive Innovation Centers

Panel Discussion & Open Forum
Advancing Digital Manufacturing: What is Next?

- Digital Manufacturing Initiatives: Manufacturing Societies, Government Agencies, Academic, Private, etc.
- Technology Developments Needed & Expected (Improvements in Product Size, Speed, Cost, etc.)
- Integration of Digital Manufacturing into Traditional Industry Operations
- Technology, Market, Application & Infrastructure Challenges & Opportunities
- Can Anyone Predict The Future?
- Potential Impact on Jobs & Economy
- Are Applications Limited or Limitless!!

12:00 Noon Adjournment

Benefits of Conference Attendance

- Learn the current state of the art for current & evolving Digital Manufacturing technologies plus gain firsthand knowledge from users, recognized experts and industry pioneers
- Obtain an understanding of infrastructure shifts impacting the manufacturing industry and how they can foster Digital Manufacturing's advamcement
- Receive an appreciation for the challenges & issues critical to Digital Manufacturing's continued market expansion and increased utilization
- Establish personal relationships with key players in the Digital Manufacturing & User industries
- Gain an understanding of the significant current and projected markets plus the Digital Manufacturing technology developments being made and still required to expand the applications base and market penetration
- Display your products, technologies, services, etc. with a **complimentary display space** &give a 5-minute presentation in the popular **Suppliers' Forum** session

Registration Information **1st Digital Manufacturing Conference**
Opportunities for Manufacturing Rebirth

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 $500 cancellation fee, but will receive a copy of the conference binder/CD.

To register, submit the registration form with payment to Susan Vandrey, 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

☐ **1st Digital Manufacturing Conference**
Opportunities for Manufacturing Rebirth
June 22-24, 2011

I wish to reserve a ☐ Display Space ☐ Suppliers' Forum Slot

NAME _____

JOB TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ STATE_____ ZIP_____

COUNTRY _____

PHONE _____ FAX:_____

EMAIL_____

☐ 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.

Hollywood Beach Marriott Information

IMI's **1st Digital Manufacturing Conference - Opportunites for Manufacturing Rebirth** is being held at Hollywood Beach Marriott located in Hollywood, Florida. Hotel reservations are the responsibility of each meeting registrant. **Early booking is advised** as the reduced rate is guaranteed only until May 31, 2011 Phone +1-954-924-2202 or +1-866-306-5453 and reference "**1st Digital Manufacturing Conference**" to receive the group rate of $119 for single or double occupancy.

To make online reservations - go to **http://tiny.cc/97i0q** -fill in desired dates and follow instructions to complete.

The Hollywood Beach Marriott is located directly on the ocean between the Atlantic Ocean and Florida's intracoastal Waterway providing guests with a dazzling South Florida oceanfront location. The hotel is near downtown Fort Lauderdale and 7 miles from Ft. Lauderdale/Hollywood Airport. It is situated on Hollywood's Broadwalk, a 2.5 mile stretch of dining, biking, shopping, strolling, and people watching directly on the beach (named one of the Top 10 Nostalgic Promenades by USA Today)

For additional information on the hotel and area, visit www.hollywoodbeachmarriott.com and www.visithollywoodfl.org

The Hollywood Beach Marriott address is
2501 North Ocean Drive
Hollywood, FL 33019 USA
Phone: +1-954-924-2202

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

Ink Jet Technology Showcase 2011
June 8-9, 2011
Ink Jet Academy: Theory of Ink Jet Technology
June 6-7, 2011
UV Ink Jet Printing Course
June 6-7, 2011
Hesperia Tower Hotel
Barcelona, Spain

4th Annual Digital Printing Presses Conference
Road Map to 2020
June 20-22, 2011
1st Digital Manufacturing Conference
Opportunities for Manufacturing Rebirth
June 22-24, 2011
Hollywood Beach Marriott
Hollywood (Ft. Lauderdale), Florida, USA

Ink Jet Academy: Practice of Ink Jet Technology
June 20-23, 2011
Letchworth, Hertfordshire, UK

Ink Jet Academy: Practice of Ink Jet Technology
October 2011 Dates TBA
Letchworth, Hertfordshire, UK

19th Annual European Ink Jet Printing Conference
November 9-11, 2011
Ink Jet Academy: Theory of Ink Jet Technology
November 7-8, 2011
AWA Inkjet Label & Packaging Print Seminar
November 8-9, 2011
Sheraton Lisboa Hotel
Lisbon, Portugal

8th Annual Security Printing Conference
November 16-18, 2011
Hollywood Beach Marriott
Hollywood (Ft. Lauderdale), Florida

Visit www.imiconf.com for updated program and registration details