



## Digital Manufacturing 2016 Conference The Future of Manufacturing

May 11-13, 2016

### 3D Printing, Additive Manufacturing & Digital Fabrication Course

May 10-11, 2016

the Saguara Scottsdale  
Scottsdale (Phoenix), Arizona

**Make plans now to join the digital manufacturing industry's "Movers and Shakers" on May 11-13, 2016! Don't Miss Out!**

**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/deposition, selective laser sintering, fused deposition modeling, aerosol jet deposition, solid ground curing, laser engineered net shaping and ultrasonic consolidation among numerous others. But Digital Manufacturing has many important aspects other than the "output technology," such as design software, high powered computer capabilities, data and materials handling systems and much more.

**Why is Digital Manufacturing Important to You?** 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  
Materials Conservation (Minimal Machining/Finishing Waste)  
On-Demand Production  
Production of Products Not Conventionally Manufacturable  
& Much More!

Minimal Inventory Costs (Space, Overhead & Product Costs)  
Increased Design Flexibility  
Time Savings (Design, Prototyping & Production)  
Centralized Design & Remote or Distributed Manufacturing

IMI's **Digital Manufacturing 2016 Conference** will explore current digital manufacturing technologies, ancillary manufacturing infrastructure requirements, 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 industries 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.

IMI's **3D Printing, Additive Manufacturing & Digital Fabrication Course** provides an assessment of 3D printing additive manufacturing and digital fabrication. It reviews recognized techniques used and captures the types of materials that can be used or developed. It provides an understanding and ability to recognize what is possible in the near term and where the limits of the technologies currently are as well as to appreciate the breakthroughs that may be necessary to bring about future predictions. In particular, the course will reveal the advances being made with ink jet and fluid developments.

#### Conference Displays & Suppliers' Forums

IMI's **Digital Manufacturing 2016 Conference** and **3D Printing, Additive Manufacturing & Digital Fabrication Course** provide the opportunity to have a **complimentary display space** to exhibit your products, technology or services and 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.

**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 4 and fax to +1-207-235-2226 OR send an email to [al@imiconf.com](mailto:al@imiconf.com)

To Register Online  
[www.imiconf.com](http://www.imiconf.com)

Call for Papers  
Submit Proposed Presentation Titles  
& Brief Outlines to  
[Al Keene al@imiconf.com](mailto:AlKeene@imiconf.com)

# Digital Manufacturing 2016 Conference

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## Wednesday, May 11, 2016

11:00 a.m. Conference Registration  
1:30 p.m. Conference Opening

### Welcome & Introductions

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

### Digital Manufacturing's Role in Evolving Manufacturing Environment

- What is Digital Manufacturing & Why are we Interested?
- Defining Tomorrow's "Manufacturing" Industry
- Digital Manufacturing Initiatives
- What Digital Manufacturing Offers
- Can Anyone Predict the Future?
- Potential Impact on Jobs-Economy
- Market Opportunities, Challenges & Potential
- Are Applications Limited Or Limitless?
- Can Digital Manufacturing Foster Manufacturing Growth, Rebirth & Reshoring?

**Suppliers' Forum:** 5-Minute Presentations Related To Technology, Capabilities, Services, New Product Introductions, etc. In combination with having a display, this provides an opportunity to present your technology, products or services to all conference participants. Contact Al Keene at [al@imiconf.com](mailto:al@imiconf.com) for information on having a display and signing up for the Suppliers' Forum.

6:00 p.m. Networking Reception in Display Area



## Thursday, May 12, 2016

8:30 a.m. Morning Session Opens

### Digital Manufacturing Infrastructure Requirements & Needs

- Key Parametric & Infrastructure Trends
- Digital Manufacturing Design Requirements & Options
- High Powered Computing Requirements
- Resource Allocation and Sharing
- Intellectual Property Issues
- Will Retail 3D Printing Service Bureaus be the Future (Staples, Home Depot & More)?
- Technology, Market & Infrastructure Challenges & Opportunities
- Who Will Develop Infrastructure to Capitalize on Digital Manufacturing Opportunities?

12:00 Noon Networking Luncheon

1:30 p.m. Afternoon Session Opens

### Dental, Medical & Biomedical Applications

- Will BioPrinting be the Disruptive Technology in Regenerative Medicine?
- Success Stories: Dental, Hearing Aids, Prosthetics, Microdispensing, etc.
- Is the Real Future in Printing Living Cells: Tissue, Bladders, Urethras, Blood Vessels, Heart Valves, Cartilage & More!
- Materials & Deposition Challenges
- How Can Technologies be Improved & Advanced?
- Case Studies

6:00 p.m. Networking Reception in Display Area

## Friday, May 13, 2016

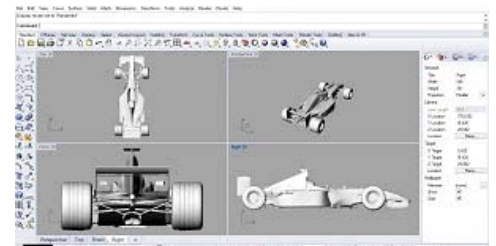
8:30 a.m. Morning Session Opens

### Major Manufacturing Applications

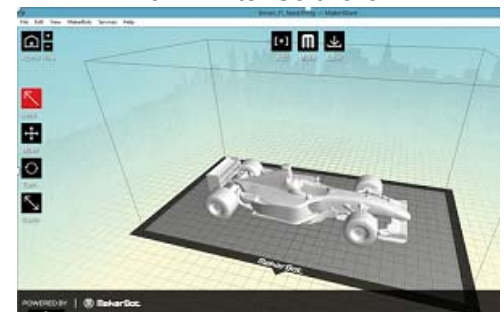
- Aerospace, Automotive, Energy, etc.
- Consumer Products: Personalized Products, Jewelry, Furniture, Home Décor, Art, Replacement Parts, etc.
- Quality, Speed, Size, Cost & Other Requirements
- Product & Materials Availability, User Friendliness, Economics, etc.
- Technology Developments for Applications Expansion
- Materials Development Key to Success
- Integration of Digital Manufacturing into Traditional Industry
- Case Studies

12:00 Noon Adjournment

### Step 1 - Design Your Model



### Step 2 - Load Design into your 3D Printer Software



### Step 3 - 3D Print Your Race Car





# 3D Printing, Additive Manufacturing & Digital Fabrication Course

**May 10-11, 2016**

**the Saguaro Scottsdale  
Scottsdale (Phoenix), Arizona**

3D printing has caught the world by storm to the extent that it is suggested that the second industrial revolution is underway. 3D printing or Additive Manufacturing is a process of making a three-dimensional solid object of virtually any shape from a digital model.

While 3D printing technology has been around since the 1980s, it was not until the early 2010's that printers became widely available commercially. According to Wohlers Associates, the 3D printer and services market was \$2.2 billion worldwide in 2012, up 29% from 2011. McKinsey lists 3D printing as one of 12 technologies that could drive truly massive economic transformation and disruption in coming years. 3D printing technology is used for both prototyping and distributed manufacturing with numerous and diverse applications.

IMI's **3D Printing, Additive Manufacturing & Digital Fabrication Course** provides an assessment of 3D printing additive manufacturing and digital fabrication. It reviews recognized techniques used and captures the types of materials that can be used or developed. It provides an understanding and ability to recognize what is possible in the near term and where the limits of the technologies currently are as well as to appreciate the breakthroughs that may be necessary to bring about future predictions. In particular, the course will reveal the advances being made with ink jet and fluid developments.

## Tuesday, May 10, 2016

11:00 a.m. Registration  
1:00 p.m. Opening Session

### Welcome & Introductions

Alvin G. Keene, President, IMI, Inc.,  
Carrabassett Valley, Maine

### Course Leader:

Dr. Alan L. Hudd, Director & Founder,  
Alchemie Technology, Cambridge, UK

### 3D Printing & Additive Manufacturing Techniques

- Course Overview
- Review of 3D Printing Techniques
  - Fused Deposition Modeling
  - Electron Beam Fabrication
  - Laser Sintering/Melting
  - Laminated Object Manufacturing
  - Stereo & Step Flash Lithography
  - Digital Light Processing
  - Ink Jet Printing
  - Others
- Additive Manufacturing
  - Industrial Ink Jet Dispensing
  - Simplifying Manufacturing Processes
- Digital Fabrication
  - Biomedical & Biological
  - Complex Functional Parts & Devices

### Materials

- Review of the Range of Materials that can be 3D Printed.
- Examples: Thermoplastics, Resins, Powders, Metals, Alloys, Edibles, Photo-polymers, Biological & Ink Jet Fluids
  - 3D Printing Materials (Powders, Thermoplastics, Metals, Edibles & UV Cure Materials)
  - Additive Manufacturing (Etchants, Pretreatments, Coatings & Functional Materials Deposition)
  - Digital Fabrication (Drugs, Medical Devices, Enzymes, Bio-fluids, Metals, UV Cure & Others)
- Challenges for Material Development
  - Powders, Polymers, UV, Pigments, Bio, Metals
- Properties & Limits on Material Development
- Examples of Recent Developments

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

6:00 p.m. Networking Reception

## Wednesday, May 11, 2016

8:30 a.m. Session 2

### Applications and Trends

- 3D Printing Applications
- Additive Manufacturing Applications
- Digital Fabrication Applications
- Emerging Applications & Opportunities
- Future Applications & Benefits
- Transforming Design and Product Development
- Challenges and Barriers to Reshaping Supply Channels & Reshoring Manufacturing

### Development Opportunities

- Main Players in 3D Printing Market
- Print Service Providers
- Printer Manufacturers
- Main Inkjet Players for Additive Manufacturing & Digital Fabrication
- Market Sizes

12:00 Noon Adjournment



Course Leader  
Dr. Alan L. Hudd  
Alchemie Technology



To Register Online  
[www.imiconf.com](http://www.imiconf.com)

### Dr. Alan L. Hudd, Director and Founder, Alchemie Technology, Cambridge, UK

Dr. Hudd is Director and Founder of Alchemie Technology Ltd. Alchemie is an independent contract development and consultancy to the industrial ink jet industry. A particular research interest is how ink jet can provide sustainable energy solutions.

Dr. Hudd was a founder of Xennia Technology and Managing Director from 1996 to 2012. During this period, he built Xennia to a world leading industrial ink jet developer and solutions provider.

In 1987, Dr. Hudd joined Domino Printing Sciences and spent 8 years as Fluids Technology Manager, developing a wide range of inkjet inks for diverse applications and is credited with a number of patents and significant innovations in the industrial inkjet industry. Prior to Domino, he spent almost eight years with the UK Ministry of Defence and Royal Ordnance. 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.

## Registration Information



Registration Fees: \$1095 per registrant for **Digital Manufacturing 2016 Conference**  
\$795 per registrant for **3D Printing, Additive Manufacturing & Digital Fabrication Course**  
\$100 discount 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 material. Cancellations will receive a 100% refund if made 96 hours prior to the start of the program. Substitutions may be made at any time. Cancellations made less than 96 hours prior to the start of the program will receive no refund, but will receive the conference materials.

**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](mailto:imi@imiconf.com) or visiting our web site [www.imiconf.com](http://www.imiconf.com)

## REGISTRATION FORM

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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

### the Saguaro Scottsdale Information

IMI's **Digital Manufacturing 2016 Conference** and **3D Printing, Additive Manufacturing & Digital Fabrication Course** are being held at the Saguaro Scottsdale (pronounced suh-warh-oh) in Scottsdale, Arizona. Hotel reservations are the responsibility of each meeting registrant. **Early booking is advised** as the reduced rate is guaranteed only until April 24, 2016. Phone +1-877-808-2440 or +1-480-308-1100 and reference "**Group Code 1605INFORM**" to receive the group rate of \$145 for single or double occupancy (including resort fee). To make reservations online, go to <http://tinyurl.com/IMIMAY2016AZ>

The Saguaro Scottsdale is conveniently located in the heart of Old Town Scottsdale and is 10 miles from Phoenix Sky Harbor Airport. The Saguaro was fully renovated in 2011. Named after the saguaro cactus, the hotel decor was recreated around a palette of 12 vibrant colors found in native desert wildflowers.

For additional information on the hotel, visit [www.saguaroscottsdale.com](http://www.saguaroscottsdale.com) and for Scottsdale [www.experiencescottsdale.com](http://www.experiencescottsdale.com) and for Arizona [www.arizonaguide.com](http://www.arizonaguide.com)

The Saguaro Scottsdale address is  
4000 North Drinkwater Boulevard  
Scottsdale, AZ 85251 USA  
Phone: +1-480-308-1100  
Web Site: [www.saguaroscottsdale.com](http://www.saguaroscottsdale.com)

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

### IMI Europe Inkjet Ink Development Conference

April 13-14, 2016

Aquatis Hotel  
Lausanne, Switzerland

### IMI Europe Inkjet Summer School

June 20-24, 2016

Ink Jet Academy

### Fluid Dynamics & Acoustics for Inkjet Printing

June 20-21, 2016

Digital Textile Printing  
Inkjet Ink Characterisation

June 22-23, 2016

Inkjet Ink Manufacturing  
Jetting Functional Fluids

June 23-24, 2016

Print Media Academy  
Heidelberg, Germany

### IMI Europe Digital Print Europe

November 28-December 1, 2016

Ink Jet Academy  
Additional Course TBA

November 28-29, 2016

### IMI Europe Inkjet Printing Conference

November 29-December 1, 2016

Novotel Amsterdam City  
Amsterdam, The Netherlands

### Digital Printing Presses 2016 Conference

May 2-3, 2016

Security Printing 2016 Conference  
Ink Jet Academy

May 4-5, 2016

The Florida Hotel & Conference Center  
Orlando, Florida, USA

### Thermal Printing 2016 Conference

May 9-11, 2016

### 3D Printing, Additive Manufacturing & Digital Fabrication Course

May 10-11, 2016

Digital Manufacturing 2016 Conference  
Opportunities for Manufacturing Rebirth

May 11-13, 2016

Saguaro Scottsdale Hotel  
Scottsdale (Phoenix), Arizona, USA

### Ink Jet Technology Showcase 2016

September 7-8, 2016

USA Location TBA

### Ink Jet Printing World 2017

Ink Jet Printing 2017 Conference

Ink Jet Academy

1st Quarter 2017

USA Location TBA

Additional Programs TBA