



Inkjet Conference 2023

May 18-19, 2023

(See Pages 4-7)

Inkjet Innovation Academy

May 16-17, 2023

Inkjet Academy (See Pages 2-3)

**The Florida Hotel & Conference Center
Orlando, Florida**

The IMI **Inkjet Conference 2023**, is the inkjet industry's annual flagship strategic conference, will be May 18-19, 2023 at The Florida Hotel & Conference Center in Orlando, Florida. Trusted as a primary source of high value information by the inkjet industry's executive and technology innovators for 30+ years; the program addresses the most recent innovations, trends, and issues critical to inkjet's applications expansion and market growth.

With inkjet's rapid pace of technology developments, applications expansion, and increasing market potential - it is all the more important than ever for you to keep up to date thus enabling maximization of your participation, success, and profitability in the inkjet industry.

IMI's **Inkjet Conference 2023** along with learning opportunities at the **Inkjet Innovation Academy** course will provide improved understanding of ongoing developments and the ability to capitalize on the business opportunities being generated by inkjet and related technologies' advancements. **If you are interested in speaking opportunities at IMI programs - contact al@imiconf.com**

This two-day event includes the following elements:- **keys to your future success**

- Updates & views from industry pacesetters
- Societal, consumer & industry trends shaping inkjet industry
- Market & opportunity perspectives from industry experts
- Perspectives from key end users
- New technology needs & introductions from inkjet innovators
- Networking lunches, breaks & reception
- Complimentary display space
- Suppliers Forum presentation opportunity
- Sponsorship opportunities

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Updates &
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Complimentary Displays & Suppliers' Forum plus Sponsorships

IMI's **Inkjet Conference 2023** and **Inkjet Innovation Academy** provide opportunities for complimentary display space to showcase your products, technology, or services. Also, the **Inkjet Conference 2023** provides 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 throughout the programs. **There is no fee in addition to the standard program registration fees to have a display and/or give Suppliers' Forum presentations. To reserve your display space and Suppliers' Forum presentation slots, please register online and check off the boxes indicating your participation OR complete the registration form in this flyer and fax to +1-207-560-9119 OR email al@imiconf.com**

For details on sponsorship opportunities, contact Al Keene al@imiconf.com



Inkjet Innovation Academy

Inkjet Academy

The Florida Hotel & Conference Center
Orlando, Florida
May 16-17, 2023

Understanding the basics is essential to any industry's development. The **Inkjet Academy** one-and-a-half-day course introduces and discusses the technology behind the many types of inkjet printers used today and aims to give your understanding of the industry an expert start by introducing and reinforcing concepts which are even further expanded in other IMI innovation academy courses.

Based on proven content but updated significantly in 2022/2023 to use plenty of practical examples from DoDxAct's unique laboratory, the **Inkjet Academy** course will explain printheads of different types, the materials used in their fabrication, and the introductory theory of their operation. You will also learn a little about ink types and properties, how inks are broadly formulated and used and why they are sometimes more challenging than inks for other print technologies. The ink supply systems and other crucial integration topics are also discussed to explain the importance of the system approach to inkjet application success for different markets. The course finishes with a discussion on established and developing applications/markets including a section on case-studies of different machines, highlighting what motivates the OEM design choices.

Presented by inkjet industry leading expert Dr. Mark Bale of DoDxAct, the course is designed to provide useful background information for anyone entering the inkjet industry, seeking an update on today's technology, or looking for further fields of development.

Tuesday, May 16, 2023

1:00 pm Registration

1:30 pm Opening Session

Introduction to inkjet

- Course outline
- Evolution of inkjet markets
- Overview of inkjet technology & printhead introduction
- Introduction to ink types & key differences
- Ink materials & formulations
- Printhead-ink-substrate interactions

Industrial inkjet printheads

- De-mystifying printhead specs
- Real printheads by type & manufacturer
- Bulk, thin film, & MEMS explained
- Choosing a printhead starting from the application performance

6:00 pm Networking Reception

Wednesday, May 17, 2023

8:00 am Session 2

Inkjet inks & testing

- Overview of ink physical differences by ejection process
- Ink properties for jetting and wetting
- Particles & the importance of dispersion
- Manufacturing & quality assurance
- Lab testing methods in formulation

Inkjet system & components

- Overview of factors influencing print quality
- Ink & substrate
- Ink supply system design
- Printhead integration - mechanics, failure, & maintenance
- Role of hardware & software
- Motion & drop placement
- Print quality metrics

12:00 Noon Networking Lunch

1:00 pm Session 3

Industrial inkjet markets & applications

- The digital proposition & benefits
- Development through collaboration
- Example markets addressed by inkjet: Graphics, ceramics, textiles, packaging, & beyond
- Where is inkjet going?
- Sustainability

Case studies & trends - What it takes!

- Graphics & textiles
- Single pass & packaging
- Offset inkjet
- Ceramic tiles
- 3D printing

4:00 pm Adjournment

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Course Leaders

Dr. Mark Bale, Director, DoDxAct, Binegar, Somerset, UK

Mark Bale is a PhD qualified Physicist who started DoDxAct Ltd in 2017 in order to provide practical support to those developing technology for the industrial inkjet printing industry based on independent laboratory facilities. Specialising in print heads, inks and the optimisation of print process, Mark is recognised by leading vendors of inks, printheads, printers, and components as someone who can enable their technology in the market and support their customers to success. DoDxAct's clients list comprises start-ups to globally recognised brands, spanning 4 continents with the common goal of getting the most out of their inkjet products or applications.

After starting his career in Oxford and Cambridge University spin-off companies Opsys and CDT, Mark got into inkjet by helping develop the process to print OLED displays, including the print strategy & metrology to optimise the uniformity. Mark then worked with Sun Chemical for over 10 years, ultimately leading a team that supported the integration of cutting-edge inkjet ink developments of all types into OEM customers of their SunJet branded and private labelled products.



Dr. Mark Bale
DoDxAct

Dr. Terry Clayton, Partner – Consultant, Summit Analytical, Gilford, New Hampshire

Terry Clayton is a PhD chemist and the owner of Summit Analytical which operates a product development and analytical laboratory in Gilford, New Hampshire. He has been active in formulation of inkjet, inks and coatings, and advanced materials for over 25 years working with customers internationally. He is now concentrating on offering the benefit of his broad experience on a consulting basis to continue to help companies who are navigating from analog printing to digital manufacturing.

Most recently, Terry led a world-class team as Director of EFI to develop and commercialize printers and inkjet inks to fuel the digital transformation. Prior to that role, Terry was Vice President of R&D at Chromatic Technologies, where he ran a synthetic chemistry team specialized in design microencapsulated materials, custom leuco dyes, photochromic, and thermochromic materials. Before CTI, Terry led product development and the international expansion for Quad Graphics to build a European inks and coating manufacturing plant in Warsaw, Poland. In both these prior roles, his formulation responsibilities included products as diverse as paste inks for lithographic dry and wet offset, textile inks, gravure, and flexographic inks for packaging and conductive materials for printed electronics all based on a wide range of aqueous, heat-set, solvent, and radiation curable chemistries.

Terry has a Doctorate in organic chemistry, an MS, and dual BS. He is an adjunct faculty member at the University of Wisconsin-Milwaukee and Key Executives graduate of Harvard Business School.



Dr. Terry Clayton
Summit Analytical



Inkjet Conference 2023

The Florida Hotel & Conference Center
Orlando, Florida
May 18-19, 2023

Thursday, May 18, 2023

8:00 a.m. Registration

9:00 a.m. Opening Session

The Inkjet Industry Going Forward

Welcome & Introductions

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

New reality or innovation leapfrog, what just happened?

Inkjet & digital print workflow's sudden domination in transforming the customer experience.

Marc Mascara, Manager Professional Services, Canon Solutions America, Palmyra, New York

- Innovation doesn't happen in a vacuum & didn't stop during global pandemic
- The data tells us
 - Digital print has leapfrogged e-communications
 - Digital print has cemented itself as the communication enabler
- 3 years of COVID-19's deep impact
 - Changed print service providers view of print manufacturing
 - Accelerated innovations in smart print manufacturing
 - Favored digital print over e-communications
- 360-degree view of print manufacturing
 - What forces are in play?
 - AI, IoT, & AR innovations positioning digital inkjet print applications as the new communication enabler
- Variable data & digital workflows are driving newfound relevance for customer satisfaction & brand loyalty in an opti-channel communication world

Creating alternative hybrid inkjet printing devices **Lawrence Gamblin, President, Kao Collins Inc. Cincinnati, Ohio**

- Introduction & background
- Recent printhead & ink technology advances created new opportunities for hybrid inkjet printing devices
 - Thermal alternatives' capabilities, advantages, & disadvantages
 - Piezo alternatives' capabilities, advantages, & disadvantages
 - Who cares & why?
 - Future developments
- Potential applications
 - Continuous Forms
 - Labels & packaging
 - Textiles
- Lessons based on one company's experience
 - Background
 - Storyline: Identifying & overcoming obstacles while planning for the future
 - Results
- Future developments
- Is it worth it?

The analog to digital conversion

Dr. Terry Clayton, Partner – Consultant, Summit Analytical, Gilford, New Hampshire

- Innovation
 - A couple examples
 - When things go wrong
- The final product
 - Physical properties
 - Ageing & weathering
- The process: Substrate, chemistry, cure, & post processes
- The environment: The plant, reliability, & versatility
- Regulatory: Waste & migration
- Unique customer application & versatility
- Innovation
 - Work backwards
 - Develop a strategy

12:00 Noon Networking Luncheon

- Program continues on next page -



Marc Mascara
Canon Solutions America

Dr. Terry Clayton
Summit Analytical

Lawrence Gamblin
Kao Collins

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LinkedIn www.linkedin.com/in/alvinkeene/
Facebook www.facebook.com/imiconf/

Recent advances in high-resolution 3D inkjet printing: Experimental investigations, simulation studies & process optimisation

Prof. Steffen G. Scholz, Institute for Automation & Applied Informatic, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany

- Additive manufacturing (AM/3D printing) is key industrial enabling technology:
 - Capability to fabricate complex components
 - Substantial reductions in material wastage
 - Reduced lead times
- 3D printing (material jetting-MJ) demonstrates considerable potential:
 - Produces multi-material intricate 3D components
 - 3D components & systems with integrated functionality
 - Process easily integrated into manufacturing procedures
- Technological challenges for MJ's full industrial exploitation
 - Limited range of materials achieving consistent jetting properties
 - Need to optimise droplet formation, waveforms, substrate/jetted materials interactions, curing, post-processing, & 3D part characterisation
- Recent advances & future experimental & numerical work to enable MJ adoption:
 - Improve technology performance
 - Make more attractive for large scale industrial adoption
 - Increase market acceptance
 - Increase MJ's penetration for advanced applications

LED Curing Technology and Single Pass Curing

Michael E. Hughes, Northeast & Eastern Canada Sales Manager, Phoseon Technology, Bolton, Massachusetts

- Introduction
 - Digital inkjet solutions
 - Future of digital inkjet
- Single pass vs. double pass inkjet UV LED curing
 - UV LED intensity comparisons between 20mm & 40 mm window
 - UV LED output options for digital UV inkjet
- Phoseon technology/equipment offerings
 - Water curing options
 - Air-cooled options
- UV LED sustainability
 - Waste reduction
 - Energy reductions

Industry 4.0 - Curing to perfection with IST INTECH's Addressability

Holly Steedman, Business & Technology Development, IST INTECH, Upper Heyford, Oxfordshire, UK

- Increasing adoption of remote process control in production:
 - Efficiency & data management cannot be overemphasized
 - Curing is a crucial stage in manufacturing sector requiring meticulous attention
- Inadequate curing of coatings, adhesives, & inks can result in quality control product rejections
- UV LED technology can provide the required curing process control
- IST INTECH's patented addressability feature
 - Incorporates 100's or 1000's of LEDs in curing head
 - Can be turned on/off as required
 - Can have their intensity varied
- Application examples of curing process optimization

Some things improved, some things new

Dr. Adam Strevens, Director, i4inkjet, Athlone, Westmeath Ireland

- Innovative inkjet improvements: Printhead design, ink recirculation, air flow management, & others
- Some novel technology:
 - Evident directly from external inspection
 - Some "under-the-hood"
- Links between patent inventions & actual products
 - Improvements in today's key industrial applications
 - Interesting emerging applications

Suppliers Forum: 5-Minute presentations related to technology, capabilities, services, new product introductions, etc. For additional information or to sign up, contact Al Keene al@imiconf.com or check off box on registration form.

6:00 p.m. Networking Reception

- Program continues on next page -



Michael Hughes
Phoseon
Technology

Dr. Adam Strevens
i4inkjet



Dr. Steffen Scholz
KIT

Holly Steedman
IST INTECH



Friday, May 19, 2023

8:30 a.m. Session 3

Off the shelf inks vs. customized formulations for new applications

Steve Mills, CTO, Digital Ink Technology, Charlotte, North Carolina

- Will off the shelf formulations work or is customized formulation needed?
- Selecting your ink partner based on application requirements
 - Well defined application requirements & performance parameters
 - High volume no customization vs. low volume highly customized
 - Development & manufacturing capabilities
 - Volume expectations & minimum order quantity
 - Development & production timeline
 - Development & production costs
- Well defined ink strategy – critical element for success
 - Advantages of collaborative approach
 - Customer and performance centric

Common principles for successful inkjet applications

Dr. Mark Bale, Director, DoDxAct, Binegar, Somerset, UK

- It's the ink that gets the job done
- Optimizing the jetting to deliver that function where it's needed
- Finding the process to make the product look like it needs to



Steve Mills
Digital Ink
Technology



Dr. Mark Bale
iDoDxAct

Inkjet's breadth & depth in industrial applications **Dr. Rich Baker, President, Integrity Industrial Ink Jet Integration, West Lebanon, New Hampshire**

- Properties of inkjet: Strengths, limitations, & challenges
- The breadth of application space & how to begin
- Example cases: Packaging, 3D, Emerging markets

The growth of inkjet in non-graphic applications **Debbie Thorp, Business Development Director, Global Inkjet Systems, Cambridge, UK**

- Recent trends & inkjet requirements
- Overview of applications including printed electronics, display, 3D, solar & functional coatings.

12:00 Noon Networking luncheon

- Program continues on next page -



Dr. Rich Baker
Integrity Industrial
Inkjet Integration



Debbie Thorp
Global Inkjet
Systems



Inkjet Universe Sponsors



How digital dyeing & finishing technology will change the world

Sophia Walsh, Marketing Executive, Alchemie Technology, Duxford, Cambridgeshire, UK

- Traditional textile dyeing's environmental impact
 - 2nd largest source of global industrial water pollution
 - CO² emissions set to reach 2.5 gigatons by 2050
- Digital dyeing & finishing solutions will enable textile/fashion industry to
 - Use 95% less water
 - Use 85% less energy
 - Halve polluting chemicals consumption
- Compelling productivity, profit, & onshoring benefits of digital transition
- Why brands & supply chain need to rethink their approach & relationships to resonate with today's environmentally conscious consumers
- Technology Introduction: Alchemie's patented disruptive clean-tech digital textile manufacturing technologies
 - Precision digital liquid application
 - Activated dye penetration
 - One-step fabric coloration
 - Digital finish application



Sophia Walsh
Alchemie
Technology



Tim Murphy
Printware/IJetColor



Gary Parish
HD Barcode



Andrew Ippoliti
BotFactory

Creative applications incorporating: Variable inkjet printing, barcode technology, & smart phones

Gary L. Parish, President, HD Barcode LLC, Indialantic, Florida

- Barcodes: The technical side
- 2D barcodes: Not all created equal
 - Understanding the differences in 2D barcodes
 - The danger in public 2D barcodes
 - What's wrong with just using a QR code
 - What 2D barcodes can provide
- Print quality is important
- Not all smart phones are alike
- Case study results for high quality inkjet HD barcodes
 - Document security
 - Pharmaceutical & food safety
 - Public safety – police applications
 - Brand protection & anti-counterfeiting
 - Track & trace
- HD barcodes UV & IR imaging
- Unique features make the difference
 - Organization specific code generator with unique authorization key & password
 - Patented technology
 - Images, text, biometric data, small space & more!

Digital transformatio: Inkjet the last piece of the puzzle

Tim Murphy, President, iJetColor by Printware, St. Paul, Minnesota

- Technologies assessment: Operational parameters & economics
- Printing that is being converted from offset to inkjet
- Focus on single wide printheads in equipment >100k
- Leveraging inkjet technologies
- Applications & markets: Current & future

Inkjet printing for electronics vs. traditional manufacturing

Andrew Ippoliti, CTO, BotFactory, Long Island City, New York

- Value proposition for inkjet printed electronics
- Comparison of fabrication processes
- PCB maunufacturing market
- Comparison of outputs
 - Signal integrity: Power & frequency response
 - Physical characteristics
 - Standards compliance
- Conclusions & next steps for inkjet printed electronics

IMI's 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 IMI programs enables attendees to meet with the industry's leading experts in a single location in a short time period maximizing information transfer efficiency and minimizing travel and time expenses.

With the rapid technology developments, applications expansion, iincreasing market potential, and accelerating analog to digital transformatioon - iyou must keep up to date to maximize your success and profitability in the inkjet industry.

REGISTRATION INFORMATION

Inkjet Conference 2023

Registration Fees: \$1295 per registrant
1195 for each additional registrant from same organization

Academic Registration \$695 per registrant

Inkjet Innovation Academy

Registration Fees: \$1295 per registrant per course
\$1195 for each additional registrant from same organization

Academic Registration \$695 per registrant



All registration fees include attendance at all conference or course sessions, all scheduled event functions, and an electronic copy of the reference materials for the conference or course for which you are registered.

Cancellations will receive a 100% credit toward a future IMI program if made 5 days prior to the start of the program. Substitutions may be made at any time. Cancellations made less than 5 days prior to the start of the conference will not receive a credit but will receive an electronic copy of all reference materials for the conference or course for which you have registered.

To register, complete online registration at www.imiconf.com OR submit the registration form below to Susan Vandrey, Conference Administrator, Information Management Institute, Inc., 1106 Valley Crossing, Carrabasset Valley, ME 04947 USA. You may reserve space by phone +1-207-235-2225, fax +1-207-560-9119 or email imi@imiconf.com

Inkjet Conference 2023 and Inkjet Innovation Academy Registration Form

Inkjet Conference 2023
May 18-19, 2023

Inkjet Academy
May 16-17, 2023

Academic Registration

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The Florida Hotel & Conference Center

IMI's [Inkjet Conference 2023](#) & [Inkjet Innovation Academy](#) are being held at the The Florida Hotel & Conference Center in Orlando, Florida - A Trip Advisor Award of Excellence winner & currently rated #3 Trip Advisor traveler ranked hotel in Orlando.

Hotel reservations are the responsibility of each meeting registrant. **Early booking is advised** as the special meeting rate of \$139 (**Daily service fee included in this rate**) for single or double occupancy is guaranteed **only until May 5, 2023**. After that date, the group meeting rate will be on a space available basis.

To make online hotel reservations – Go to
<https://tinyurl.com/IMIHotel5-2023>

Phone reservations can be made by calling **The Florida Hotel & Conference Center Reservations at +1-800-588-4656 or +1-407-859-1500**. You must identify yourself as attendees of "IMI Inkjet Printing Programs" to obtain the \$139 group rate which will assure that you receive the conference rate and that the daily service fee is included in your conference rate. You may also contact Hotel Reservations via email at reservations@thefloridahotelorlando.com

The Florida Hotel & Conference Center is conveniently located 7 miles from Orlando International Airport with multiple shuttle services, taxis, and Uber/Lyft services available.

Conveniently connected to The Florida Mall (Orlando's largest retail shopping venue), The Florida Hotel & Conference Center provides walking access to over 250 dining, retail opportunities. The hotel's over 500 guest rooms provide a comfortable setting for your IMI conference experience.

The Florida Hotel & Conference Center, Greater Orlando area, and the state of Florida offer tremendous opportunities to combine your IMI conference participation with a quick weekend or longer vacation to enjoy the warmth and attractions of interest to all.

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