IMI’s strategic annual Inkjet Conference 2020 plus learning opportunities at the Inkjet Innovation Academy courses are designed to provide improved understanding of ongoing developments and the ability to capitalize on the business opportunities being generated by inkjet and related technologies’ advancements - keys to your future success.

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.

Complimentary Displays & Suppliers’ Forum plus Sponsorships
For details on displays, Suppliers Forum, & Sponsorships, contact Al Keene al@imiconf.com

Inkjet Conference 2020 Sponsors
Inkjet has the potential to be used in a vast variety of markets and applications, in the industrial manufacturing space including 3D printing, direct-to-shape, automotive, aerospace, biotechnology, electronics, consumer goods, medical, pharmaceutical, textile as well as numerous other applications. This *Industrial Inkjet System Design Course* will explore how to set up a successful development program to assess, develop and implement an inkjet system for a specific end use. Factors including process, flow, speed, substrate, print quality, ink type, pre and post print necessities, curing and user interfaces are just a few examples of the covered considerations that are pertinent to an industrial inkjet system design.

Since there are, commonly, no off-the-shelf print systems that a manufacturing company can simply review and buy, it is up to users to decide for themselves whether inkjet technology is a fit for them technically, economically, and for process productivity. It is also up to them to specify, build, test, and implement a system. Thus, it is highly important to have a preliminary understanding of inkjet and an ability to ask the right questions when creating an industrial system design as well as understanding the challenges of using inkjet in a manufacturing environment.

The future possibilities of inkjet technology are expansive, and exciting! IMI’s *Industrial Ink Jet System Design Course*, led by Dr. Rich Baker, President of Integrity Ink Jet Integration provides guidance and practical experience to people considering using inkjet as an industrial manufacturing process.

**Industrial Inkjet System Design Course Leader**

**Dr. Rich Baker**, President, Integrity Industrial Ink Jet Integration, West Lebanon, New Hampshire

Dr. Rich Baker is President of Integrity Industrial Ink Jet Integration, a company that designs and fabricates bespoke industrial ink jet print systems for end user production lines. Integrity has built print systems for numerous companies. Systems range from printing onto individual flat products to contoured direct to shape surfaces to web-based products, and covers applications including, high speed labels, food decoration, functional electronics, pharmaceutical & biotech deposition, window fashions, displays & touch screens and industrial 3D manufacturing. Integrity is printhead and ink agnostic, and integrates with technologies from all the major printhead and ink companies.

Prior to founding Integrity, Rich worked at FUJIFILM Dimatix for 14 years. As Director of Business Development at FUJIFILM Dimatix, he was responsible for fostering relationships between world leading ink companies, OEM systems integrators and end user customers, as well as founding and managing their Systems Integrations Group.

Before FUJIFILM Dimatix, Rich held the position of Chemical Products Manager at Markem-Image, where he was responsible for developing a wide variety of inkjet inks, including hot melt.

Rich has a PhD in Chemistry from the University of Massachusetts.
Understanding the basics is essential to any industry’s development. The Inkjet Academy one-and-a-half-day course covers the theory behind the many types of inkjet technology used today and aims to give your understanding of the industry an expert start.

The Inkjet Academy course will show you how printheads work, the materials used in their fabrication, and the theory of their operation. You will also learn how inks are formulated and used, as well as about ink supply and support systems. The course examines how drops are formed, travel, and behave on the substrate surface. Fundamental aspects of printer operation such as nozzle maintenance and print quality are also covered.

Presented by Dr. Simon Kew and Dr. Alan Hudd of Alchemie Technology, 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.
Inkjet Inks - Materials & Applications Course
DoubleTree by Hilton Phoenix-Tempe
Tempe, Arizona
February 10-11, 2020

Building on the back of the success of wide format graphics applications, industrial inkjet printing has penetrated many market areas by utilizing a wide range of different ink chemistry approaches.

IMI’s Inkjet Inks – Materials and Applications Course provides an insightful overview of the different ink platform technologies in use today, with an emphasis on practical aspects of materials selection and optimization for the low viscosity requirement of inkjet printing. Looking from the applications viewpoint, potential ink solutions are compared and contrasted. Key issues surrounding the integration of inkjet ink technologies into industrial printing within a production environment are also considered.

Led by Dr. Mark Bale, founder of DoDxAct, IMI’s Inkjet Inks – Materials and Applications Course is aimed at developers wishing to adopt inkjet technology in their industrial production processes, or those who are already skilled in one area and are looking to understand the wider potential of inkjet chemistries available.

Monday, February 10, 2020
1:00 pm Registration
1:30 pm Opening Session

- How inkjet ink has evolved
  - Sustainability
  - The drive back to water
- The modern process
  - Inkjet as the enabling technology
- Market considerations
  - OEM vs. aftermarket
- Basic ink chemistry comparison
  - What’s inside
  - The influence of the printhead
- Making sure it’s right
  - Checking the basic properties
6:00 pm Networking Reception

Tuesday, February 11, 2020
8:00 am Session 2
Inkjet ink types & materials choices

- Radiation curable
  - The ubiquitous all-rounder
  - Focus on free radical UV
- Aqueous
  - Function takes over from simple colors
- Solvent
  - From hard CIJ inks to ‘eco’ graphics
- Oil
  - Good option for absorbing substrates
- Hot melt
  - Great route to process resilience
- Hybrid
  - Clever chemistry as the best of both worlds

12:00 Noon Networking Lunch
1:00 pm Session 3
Application examples: Ink selection

Practical examples of ink selection by application area
- Wide format graphics
- Production print
- Textiles
- Ceramics
- Decor
- Corrugated board & paper packaging
- Flexible (plastic) packaging
- Electronics
- 3D printing
- Electronic materials
4:00 pm Adjournment

Inkjet Inks: Materials & Applications Course Leader
Dr. Mark Bale, Director and Founder, DoDxAct, Somerset, UK

After working many years for a leading ink company, Dr. Mark Bale founded DoDxAct Ltd, an inkjet technology consultancy in 2017. Based in Somerset UK, DoDxAct offers bespoke training and practical assistance in support for all aspects of inkjet R&D from ink formulation and manufacture through jetting & process integration to final application optimization. Working with start-ups to large companies with global reputations, his inkjet applications experience takes in production inkjet, wide-format graphics, labels & packaging, decorative surfaces, print-to-shape, electronics manufacturing, product coding, and 3D printing.

Dr. Bale earned his undergraduate degree and PhD in Physics from the University of Birmingham UK and is a published author of academic papers, patents, and online content on topics ranging from microfabrication, OLED devices to inkjet printing.

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Inkjet Conference 2020
DoubleTree by Hilton Phoenix-Tempe
Tempe, Arizona
February 12-13, 2020

With the rapid technology developments, applications expansion, and increasing market potential - it is all the more important for you to keep up to date to maximize your participation, success, and profitability in the inkjet industry.

IMI’s Inkjet Conference 2020 is the flagship strategic conference for the inkjet industry, trusted as a primary source of high value information by senior executives and commercial managers for more than 25 years. The program addresses the most recent innovations, trends, and issues critical to continued adoption, growth, and expansion of inkjet printing applications, and markets.

IMI’s Inkjet Conference 2020 is designed to bring together the ink jet industry’s leading experts to provide a comprehensive assessment of the industry (present & future) and to provide valuable insights into development of your future inkjet business strategy.

This two day event includes the following elements:

- Market briefings from leading analysts
- Perspectives from key end users
- Networking Lunches, Breaks, and Reception
- Suppliers Forum Presentation Opportunities
- Updates and views from industry pacesetters
- New technology introductions from inkjet innovators
- Complimentary Display Space
- I.T. Strategies Market Report

Wednesday, February 12, 2020
7:30 a.m.    Registration
8:30 a.m.    Opening Session

Welcome & Introductions
Alvin G. Keene, President, IMI, Carrabassett Valley, Maine
Conference Co-Chairs:
George Gibson, President, G2 Tech Acceleration, Fairport, New York
Dr. Simon Kew, Managing Director, Alchemie Technology, Cambridge, UK

An Inkjet Perspective on 2025. Plenty of Value, Growth, and Creative Potential
Mark Hanley, President, I.T. Strategies, Hingham, Massachusetts
- Document print
  Inkjet & Landa will matter more
  Perhaps with a minority share based on fragmented specialty market
- Packaging
  Sorry, still learning flexible in 2025
  Still driving corrugated industry kicking & screaming to adoption
- Industrial
  Still the jewel in the crown
  Display graphics remaining
  Decorative & DTS rooting themselves in new markets
  Don’t get too excited over 3D

NOTE: 1/22/2020 - Due to an unexpected medical issue, Mark Hanley will be unable to travel during the conference period. Mark’s presentation materials will be provided to participants. We apologize for the inconvenience. Epson presentation has been added in session 2.

The expanding inkjet universe as reflected by inkjet patents
Dr. Adam Strevens, ‘Directions’ Inkjet Patent Reviewer, Pivotal Resources, Cambridge, UK
- Company filings & industry outlook: What the statistics say
- Thermal expansion: HP, Canon, Memjet, & Realfast
- Piezo expansion: Thin film & bulk piezo patents from Xaar, Konica Minolta, Brother, FUJIFILM Dimatix, & others
- A few of the more unconventional inkjet printhead architectures
- Interesting system & application patents

Remember desktop inkjets? Home & office inkjet markets
Charles Brewer, President, Actionable Intelligence, Franklin, Massachusetts
- Hardware market declining, however
  Home market has stabilized
  Push into business market continues
- Consumables market revenues impacted by
  Lower printing volumes
  Penetration of 3rd party players
  New hardware designs & business models
- Top line forecast for hardware & supplies
- Trends in recent hardware releases: Speeds & feeds, cost per page, cloud printing, mobility, security, etc.
- Update on the 3rd party supplies industry for inkjet cartridges
  Details of production shift to China: Top 5 manufacturers profiles
  Channel dynamics: Brick & mortar to online; emergence of Amazon as a leading channel, etc.
- Legal review: OEM IP activity, OEM actions against online vendors
- Future visions

UV hybrid digital presses for labels & packaging
Joe Calmese, Executive VP & Chief Business Officer for Digital, Mark Andy, Chesterfield, Missouri
- Growing global labels & packaging industry
- Opportunities & magnitude for
  Inkjet technology providers
  Inkjet printing solutions providers
- North American case studies to justify investment
  Insights & productivity statistics
  Operational metrics: Annual turnover, order quantity break even, ROI, investment payback, & more

Conference program continues on next page
Interactive publications: A technology that will change your publishing/communication world
Dr. Harvey R. Levenson, Professor Emeritus, Cal Poly, Emeritus San Luis Obispo, California
- Transformation of how publications are produced
- Augmented reality
- Print-to-web and beyond
- Technology of Ricoh clickable paper
- Solving the workforce crisis at printing companies—Quickly & economically
- Print (ink on paper) for multimedia communication
- Print + digital potential for learning (reading, watching, listening, & discussing)
- Making the technology of print come alive (publication + smart phone/tablet)
- Case studies
- Live demonstrations

12:00 Noon Networking Luncheon
1:00 p.m. Session 2
Technology developments & innovations drive inkjet growth
How printhead technology is being driven by industrial market trends
Joseph Ryan, Director Business Development, Ricoh Printing Systems America, Simi Valley, California
- Pressures on inkjet technology from a print head-centric point of view
  - Printhead’s position in the hardware value chain subjects them to pressure to meet physical & electrical challenges demanded by emerging printing environment
  - Printhead’s position in the chemical value chain subjects them to pressure to meet widely expanding rheological requirements
  - Printhead technology responding to these pressures by expanding the technical capabilities of the ink jetting devices
    - More nozzles
    - Higher operating temperatures
    - Higher viscosity jetting capabilities
    - Printhead assembly design
    - Designs for applications
    - And more...
- Summary of printhead technology responses to various market forces and an outlook to the future

Actuate digital innovations: Another challenge of Kyocera with new printhead platform
Shin Ishikura, Manager Inkjet Design Center, Kyocera, Esslingen, Germany
- Looking back at Kyocera KJ4 Series
- Recent inkjet market trends
- Going forward with Kyocera KJ4 EX Series
- Conclusion

A study in high standoff defect control
James Gill, Account Director, FUJIFILM Dimatix, Lebanon, New Hampshire
- Lab procedures for evaluating fluid dynamics effecting small drops at high speed
  - Methods to control small drops (less than 5pl)
  - With high standoff (5mm)
- Results: Improved sustainability & image quality

What’s new in inkjet at Canon
Michael Poulin, Director Inkjet Product Marketing, Canon Solutions America, Boca Raton, Florida
- Innovations driving inkjet into new commercial applications
  - New applications with specialty media & inks
  - Heavy media support
  - Inline quality control
  - Color uniformity control
  - Nozzle uniformity control
  - Nozzle activity control
  - High resolution RIP
  - Remote service & predictive maintenance
  - Smart media management
  - Partner integration
  - Book smart suite

Paint the future with full speed: Introducing Epson inkjet printhead technology
Mike Raymond, Business Development Manager, Epson America, Long Beach, California
- Evolution of Epson inkjet technology
- Advantages of TFP PrecisionCore inkjet printing technology
- Printhead product lineup

Suppliers’ Forum: 5-minute presentations related to inkjet technologies, capabilities, services, new product introductions, etc. Suppliers’ Forum is open to all conference registrants. FMI contact al@imiconf.com - check off box on registration form to sign up.

6:00 p.m. Networking Reception in Display Area
Conference program continues on next page
Thursday, February 13, 2020
8:00 a.m.    Session 3
Technology developments & innovations drive inkjet growth

Print quality optimization: Understanding the power of software
Debbie Thorp, Business Development Director, Global Inkjet Systems, Cambridge, UK
- Factors affecting print quality
- Software correction methods including
  - Printhead linearization
  - Stitching
  - Screeners
  - Grey level selection
  - Ink flow compensation
  - Rotation/skew correction
- Automated closed loop correction

Heterogeneous imaging systems: Inkjet’s adaptability
Jonathan Wilson, Sales Director, Meteor Inkjet, Cambridge, UK
- Mixing different printheads & fluids
- Extending inkjet adoption in industrial applications

Waveform as a tool for industrial inkjet
Dr. Mark Bale, Director, DoDxAct, Somerset, UK
- The requirements of industrial print
  - Application comparisons
  - Conventional head selection rationale
  - Pushing the specifications
- Waveform tuning
  - One head, many solutions
  - Large drops from small
  - Comparing high throw distance behaviour
  - Some different examples

Inkjet ink innovations driving new markets & applications
Stephen Emery, Sr. Vice President Digital Inks, IIMAK, Amherst, New York
- Solvent to co-solvent to UV & latex focused largely on display graphics
- Specialty markets for ceramic, textiles, DTG focus on production and industrial applications
- Reducing inventory, scrap, lead times, variable on demand printing, and reduced VOC’s! All driving interest in new applications and markets
- What’s next...Water base XYZ? Ebeam, other

Waterless smart digital dyeing and technical textile coatings
Dr. Alan L. Hudd, Director & Founder, Alchemie Technology, Cambridge, UK
- Does Greta Thunberg have a point?
- Textiles an industry drowning in pollution
- Can digital technology bring about a textile dyeing revolution?
- A production solution to a pollution free, energy efficient textile dyeing process
- Introducing Alchemie Endeavour a “waterless smart digital dyeing process”
- An opportunity to re-shore Western textile manufacturing into a clean-tech industry for the next decade

1:00 p.m.    Session 4
Inkjet technology innovations for successful applications

Inkjet as a manufacturing process
Dr. Rich Baker, President, Integrity Industrial Ink Jet Integration, West Lebanon, New Hampshire
- Why Inkjet?
- Approaches & considerations available
- Opportunities for growth sectors
  - 3D printing/additive manufacturing
  - Bio & pharma printing
  - Functional materials printing & deposition

The role of inkjet technologies in additive manufacturing
George Gibson, President, G2 Tech Acceleration, Fairport, New York
- Taxonomy of 3D printing systems
- Where inkjet plays
- Strengths & weaknesses of inkjet approaches
- Materials limitations: Jettability & performance
- Post production processing & finishing requirements
- Meeting end use performance parameters
- Innovations needed to improve/expand inkjet’s role

Functional inkjet printing on 3D substrate surfaces
Prof. Dr. Reinhard R. Baumann, Technische Universität Chemnitz & Fraunhofer Institute, Chemnitz, Germany
- Applications in automotive & aerospace

Inkjet applications using disperse/sublimation dye inks both direct and transfer
Dr. Ray A. Work, III, President, Work Associates, Lakewood Ranch, Florida
- Disperse dyes: Direct & sublimation
- Applications: Direct print & transfer
- Receptors: Fabrics, polymer coatings, hard surfaces, 3D surfaces
- Durability challenges & causes
- Transfer media options & applications
- Opportunities for future applications

Successful inkjet integrations
Oscar Planas, Director Sales, Engineered Printing Solutions, East Dorset, Vermont
- Advantages of digital vs. contact printing
- Project requirements
- Project considerations
- Videos demonstrating product decoration systems

4:30 p.m.    Adjournment

12:00 Noon    Networking Luncheon
REGISTRATION INFORMATION

Inkjet Conference 2020
Registration Fees: $1095 per registrant
$995 for each additional registrant from same organization when registered as a group
The registration fee includes attendance at all conference sessions, all scheduled conference functions, and an electronic copy of the conference reference materials plus I.T. Strategies annual industry market report.

Inkjet Innovation Academy - Inkjet Academy plus Other Courses TBA
Registration Fees: $1095 per registrant
$995 for each additional registrant from same organization to any course when registered as a group
Inkjet Conference 2020 registrants also receive the $995 per course registration fee.
The registration fee includes attendance at all course sessions, all scheduled course functions, and an electronic copy of the course reference materials for that course plus I.T. Strategies annual industry market report.

Cancellations will receive a 100% refund if made 5 days prior to the start of the program. Cancellations made less than 5 days prior to the start of the program will not receive a refund, but will receive an electronic copy of program materials. Substitutions may be made at any time.

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, Carrabassett 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 2020 and Inkjet Innovation Academy Registration Form

☐ Inkjet Conference 2020
February 12-13, 2020

☐ Industrial Inkjet System Design Course
February 10-11, 2020

☐ Inkjet Academy
February 10-11, 2020

☐ Inkjet Inks - Materials & Applications Course
February 10-11, 2020

I wish to reserve a
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☐ Suppliers’ Forum slot (NOT Available for Feb 10-11 Courses)

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