



The IMI Europe Inkjet Summer School is the ideal way to learn more about key aspects of inkjet technology, from the basics through to advanced courses on inks, printheads and applications.

Inkjet Academy

Theory of inkjet technology

The Inkjet Academy covers the basic theory behind the many types of inkjet technology used today and aims to give your understanding of the industry an expert start. The course is presented by Dr Alan Hudd & Dr Simon Kew of Alchemie Technology and Mike Willis of Pivotal Resources.

Inkjet Ink Characterisation

Viscosity, dispersions, jetting & surfaces

This course covers rheology and surface tension measurements, particle and dispersion assessment, as well as drop visualisation and print quality analysis. The course features contributions from industry leaders Malvern Panalytical, KRÜSS and ImageXpert.

Jetting Functional Fluids

Rheology, deposition, process & development

In this course you can learn how to develop a functional printing application, including inkjet printhead selection, formulating an ink with functional materials and jetting functional fluids onto a substrate. The course is led by Printed Electronics Ltd.

Fluid Dynamics & Acoustics

How inkjet printing really works

The aim of this course is to couple the characteristics of droplet formation and landing, spreading and permeation to the acoustics of the fluidics of the printhead. The course leader is Prof Dr Frits Dijkman, University of Twente, Netherlands.

Inkjet Colour Management

Practical colour management for digital printing

Accurate reproduction of colour is an essential aspect of printing and the need to ensure true colours can be a limiting factor in digital adoption. This course introduces the key technology and processes required for colour reproduction, presented by ColorGATE.

Inkjet Drying & Curing

Hardware & chemistry for fixing inkjet inks

This course provides all the information you need about fixing inkjet inks, covering near-IR drying, UV curing and electron beam curing hardware, as well as the required chemistry. The course includes contributions from Adphos, Phoseon and IGM Resins.

Inkjet Academy

The Theory of Inkjet Technology

Monday 10 – Tuesday 11 June 2019

COURSE FOCUS

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 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.

The course assumes a basic scientific knowledge and 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.

Monday 10 June 2019

12.30 – 13.30 Registration

13.30 Course begins

Introduction to inkjet

- Course overview
- Types of inkjet technology
- Drop on demand technologies
- Thermal and piezo inkjet
- Evolution of inkjet markets
- Inkjet patents

Inkjet ink technologies

- Ink types: aqueous, solvent, oil, phase change & UV cure
- Dyes & pigments
- Inkjet ink formulations

Drop production

- Thermal inkjet
- Piezo inkjet
- Continuous inkjet
- Bulk piezo
- Si-MEMS/TFP
- Deposition requirements
- Drop ejection frequency
- Crosstalk
- Reliability
- Life issues

Inkjet inks

- Inkjet ink design
- Understanding the inkjet printing process
- Drop formation
- Properties influencing piezo inkjet ink performance
- Testing an ink for reliability: methods & characterisation

17:30 Session ends

18:00 - 19:00 Reception

Join us for beers, wines and good company!

Tuesday 11 June 2019

08.30 Course begins

Drops in flight

- Drop placement accuracy
- Drop break-off
- Drop impact and spread
- Mist control

Inkjet ink materials and dispersions

- Range of materials and ink chemistries
- Evolution of inkjet inks
- Evolution of dyes
- Pigments and dispersion technology
- Dispersion theory
- Polymers and additives
- Processes and manufacturing

System design issues

- Ink supply
- Nozzle maintenance
- Mist control

Substrate & interactions

- Papers and coated papers
- Films, rigid substrates
- Bleed and intercolour bleed
- Pre and post coatings
- Adhesion
- Requirements versus applications
- Drying
- UV curable materials
- Monomers
- Oligomers
- Photoinitiators
- UV curing
- e-beam curing

12.30 – 13.30 Lunch

13.30 Session begins

Print & image quality

- Factors affecting print quality
- Printhead-ink-substrate
- Greyscale methods
- Drop detection
- Banding, single pass issues
- Drying effects
- Missing nozzle detection
- Missing nozzle compensation

Inkjet applications

- Coding, marking, mailing, addressing
- Wide format graphics
- Industrial decoration – décor & laminates
- Ceramic tiles
- Textiles
- Commercial printing
- Labels & packaging
- Printed electronics, bio-medical & 3D printing

Emerging technologies

- Kodak Stream
- Memjet
- HP PageWide technology
- Landa Nanography
- Lead-free piezo
- Speed & resolution trends

17.30 Course ends

COURSE LEADERS

Dr Alan Hudd, Chairman

Alchemie Technology, UK

Dr Hudd is Director and co-founder of Alchemie Technology, an independent contract development and consultancy company to the industrial inkjet industry. Alchemie is developing and commercialising a range of novel printhead technologies through its joint venture company, Jetronica. Dr Hudd was the Founder and Managing Director of Xenica Technology from 1996 to 2012.



Dr Simon Kew, Managing Director

Alchemie Technology, UK

Dr Kew leads Technology and Business Development at Alchemie Technology. He has over 15 years of experience in new product and process innovation applied to chemistry-enabled products. Dr Kew works across industries including consumer goods, foodstuffs, chemical and pharmaceutical sectors. He specialises in delivering innovation using digital manufacturing technologies including inkjet printing and additive manufacturing technologies.



Mike Willis, Managing Director

Pivotal Resources, UK

Mr Willis founded Pivotal Resources, a consultancy in the digital printing industry, in 1995. He has experience in a wide range of technologies and markets including drop-on-demand & continuous inkjet printing, electro-photographic technology, greyscale & colour reproduction methods and light sensitive materials. Prior to founding Pivotal Resources, he was Director of Electronic Printing at Meta Generics. He was a co-founder of Xaar and before that, he spent six years at Gestetner developing photocopiers.



Fluid Dynamics & Acoustics

How Inkjet Printing Really Works

Monday 10 – Tuesday 11 June 2019

COURSE FOCUS

Inkjet printing is a process of depositing on demand small droplets with a specified volume onto a precise location on a substrate. This definition covers a wide variety of applications like document printing, label printing, 3D printing, and functional applications like patterning of displays and biosensors. During the course we follow the ink all the way through the printhead, through droplet formation and on to landing on the substrate.

The course is mainly restricted to piezo-driven printheads jetting Newtonian inks, although the issue of viscoelastic inks will be discussed. A piezo-driven printhead is a set of acoustic cavities, the characteristics of which will be presented in the time (response to waveforms) and frequency domain.

The course is based on precise descriptions of the physical phenomena involved and on the derivation of the mathematical framework needed to solve the governing equations. Where possible the outcomes will be compared with experimental findings. Different mathematical methods will be presented to calculate the responses of different systems in the frequency and time domain. To describe correctly the behaviour of a printhead with a large number of narrow pitched nozzles, the long duct theory will be presented.

The aim of this course is to couple the characteristics of droplet formation and landing, spreading and permeation to the acoustics and microfluidics of the printhead. The knowledge conveyed during the course will enable the participants to analyse the behaviour of a wide variety of existing printheads and to support the development of new printheads and inks from a physics point of view.

Monday 10 June 2019

12:30 - 13:30 Registration

13:30 Course begins

General introduction

- Introduction on physics & mathematics
- Basic concepts (single degree of freedom system)
 - Waveforms
 - Fluid dynamics
 - Mathematics

Different piezo designs

- Helmholtz theory and waveforms (two and five degree of freedom systems)
 - Single nozzle printheads
 - Multi-nozzle devices

17:00 Session ends

18:00 - 19:00 Reception

Join us for beers, wines and good company!

Tuesday 11 June 2019

09:00 Course begins

Theoretical considerations

- Long duct theory
- Droplet formation
- Speed of sound
- Damping
- Refilling

12:30 - 13:30 Lunch

13:30 Session begins

Further considerations

- Maximum jetting frequency
- Drag on droplets
- Droplet impact and spreading
- Jetting of viscoelastic inks
- Examples: polyLED display printing, printing of biomolecules (co-authored by Dr Anke Pierik, Philips Research)

17:00 Course ends

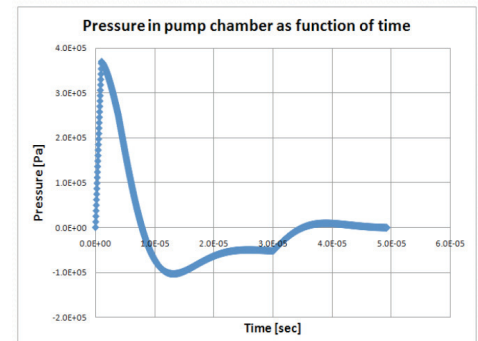
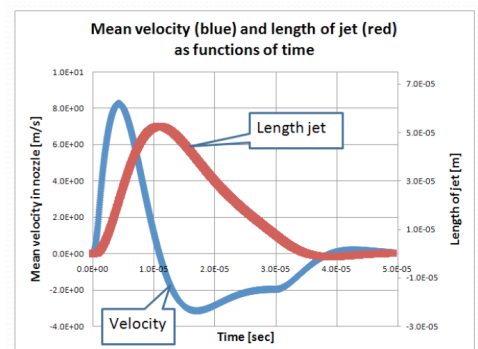
COURSE LEADER

Prof Dr J Frits Dijkman

University of Twente, Faculty of Science and Technology, Netherlands
Prof Frits Dijkman is professor of biomedical applications of inkjet technology at the University of Twente, Netherlands.



He has worked with Philips Research for more than 30 years and his main area of interest has been inkjet technology for consumer and non-consumer applications, such as PolyLED display manufacturing and the printing of biomolecules.



Cambridge Punt Trip

Join us for a punt excursion on the River Cam which flows through the beautiful city of Cambridge. The tour will be on the evening of Tuesday 11 June, and is free for all attendees of the Inkjet Summer School.



Inkjet Ink Characterisation

Viscosity, Dispersions, Jetting & Surfaces

Wednesday 12 – Thursday 13 June 2019

COURSE FOCUS

Development of high quality inks and fluids for inkjet applications requires state-of-the-art characterisation equipment and techniques. From fundamental ink properties such as viscosity and surface tension, which have a crucial impact on jetting performance, through analysis of particulates dispersed within the ink, understanding these properties is key to getting the best out of an ink development project. In addition, it is vital to understand how the developed ink actually behaves, both on ejection from the printhead and when landing onto the substrate of choice.

The Inkjet Ink Characterisation course gives an excellent introduction to these essential areas of study, presented by industry experts from leading suppliers and institutions in the field. The course will give you the basic foundations as well as a more detailed understanding of the vital equipment and techniques.

Wednesday 12 June 2019

08:00 - 09:00 Registration

09:00 Course begins

Monitoring and controlling pigment particle size

Dr Anne Virden, Malvern Panalytical

- Understanding the links between particle size and ink performance
- Overview of light scattering techniques for measuring particle size
- Pros and cons of different measurement techniques and approaches
- Practical examples

Evaluating and improving dispersion stability

Dr Adrian Hill, Malvern Panalytical

- Understanding stability mechanisms for ink dispersions
- Factors controlling stability – particle size, steric effects, zeta potential and viscosity
- How to make stable dispersions – selecting the right approach for your ink
- Practical examples

Assessing the impact of polymer structure on ink performance

Dr Serena Agostini, Malvern Panalytical

- Understanding the role of polymers for inkjet applications
- Correlating polymer properties with polymer solution behaviour including viscosity
- Measuring molecular weight, molecular structure and intrinsic viscosity
- Practical examples

12:30 - 13:30 Lunch

13:30 Session begins

Optimising ink rheology for printing applications

Dr Adrian Hill, Malvern Panalytical

- Understanding the importance of fluid rheology for inkjet printing
- Basic rheology theory - viscosity and viscoelasticity
- Rheological test methods for inkjet inks and processes
- Practical examples

Basic property measurements - surface tension

Dr Andrew Mellor, KRÜSS

- Surface tension - introduction
- Relevance to droplet formation and spreading in inkjet printing
- Interplay of surface tension and viscosity in drop formation
- Impacts on wetting
- How to optimise ink-substrate adhesion and spreading
- Interfacial rheology and its relevance to drying
- Theories and methods of measurement - compared and contrasted
- Application examples from inkjet industry

17:00 Session ends

18:00 - 19:00 Reception

Join us for beers, wines and good company!

Thursday 13 June 2019

09:00 Session begins

Jetting and print quality analysis

Kyle Pucci, ImageXpert

- Introduction to drop analysis
- How is in-flight analysis used
 - Drop formation
 - Reliability
 - Misting
 - Nozzle-to-nozzle consistency
 - Drop measurement
- Simple application examples
- Overview of techniques
- Fundamental measurements
- Practical demonstration
- Introduction to print quality analysis
- How is print quality analysis used
 - Dot properties
 - Line properties
 - Solid area quality
 - Colour registration
 - Ink interaction
- Overview of techniques
- Practical examples

12:30 Course ends

COURSE LEADERS

Dr Anne Virden, Product Technical Specialist - Diffraction & Analytical Imaging

Malvern Panalytical

Anne Virden's role involves supporting customers using Malvern's laser diffraction and analytical imaging systems to measure particle size and shape in dry powders, suspensions, emulsions and sprays.



Dr Serena Agostini, Product Technical Specialist - Separations

Malvern Panalytical

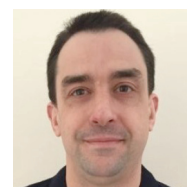
Dr Serena Agostini is a Product Technical Specialist for separation, GPC/SEC for polymers, at Malvern Panalytical. She studied Industrial Chemistry in Italy at the University of Pisa and then she continued her studies in UK, where she obtained her PhD in polymer chemistry at Durham University. During her studies she developed an interest in polymers synthesis and characterisation.



Dr Adrian Hill, Product Technical Specialist for Rheometry

Malvern Panalytical

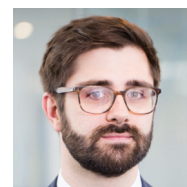
Adrian obtained his PhD from the School of Chemistry at the University of Exeter, where his work involved rheological studies on high particle-loaded dispersions. He has over fifteen years working as a rheologist and has a strong technical understanding of rheometers.



Dr Andrew Mellor, Technical Consultant

KRÜSS

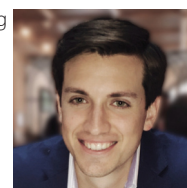
Dr. Mellor obtained his EngD in Nanoscience from the London Centre for Nanotechnology at University College London, focusing on nanoparticle promoted catalysis. He has spent 7 years in the field of surface science and has experience of several analytical techniques including electron/X-ray spectroscopy and high resolution microscopy.



Kyle Pucci, Applications Engineering Manager

ImageXpert

Kyle is Applications Engineering Manager at ImageXpert Inc. and lives in Nashua, NH USA. He graduated in 2014 from Villanova University with a BS in Mechanical Engineering. He specialises in integrating controllers and hardware with the JetXpert dropwatcher and offering support, installation, and training.



Inkjet Colour Management

Practical Colour Management for Digital Printing

Wednesday 12 – Thursday 13 June 2019

COURSE FOCUS

Accurate reproduction of colour is an essential aspect of printing, and the need to ensure true colours can be a limiting factor in digital adoption. Central to the task of reproducing colour correctly is colour management - the process by which colour is measured, represented and output by different imaging, viewing and printing devices. The aim is to put in place a system that allows colours to

be designed and output in an efficient and accurate manner. The Inkjet Colour Management course introduces the key technology and processes required for colour reproduction, presented by Gerrit Andre of leading digital printing software provider ColorGATE.

Wednesday 12 June 2019

08:00 - 09:00 Registration

09:00 Course begins

An introduction to colour - colour management basics

- Colour perception
- Colour communication
- Device colour spaces (RGB/CMYK/CMYK+Gamut extending colours)
- How ICC profiles work
- Rendering intents
- Influence of light / Viewing conditions
- Colour difference metrics – What is Delta E and what does it mean?
- How to communicate colours accurately – CMYK/ RGB, Lab and spectral data
- Communicating colours with different file types (TIFF vs. PDF vs. others)

Colour measurement

- Overview of current devices
- Which device should be used for certain applications.
- Is there a "best" device? Hint: no.

12:30 - 13:30 Lunch

13:30 Session begins

Printer calibration

- Prerequisite: Know your printer behaviour
- Practical tips for different ink types – UV/solvent/ water based
- Influences of screening methods
- Linearization / G7 calibration
- What to look for and what to avoid in order to accurately optimise ink laydown
- Identifying potential measurement issues
- Profiling and profile settings
 - Black generation methods / Ink saver
 - ICC structure
 - Identifying potential problems
 - Evaluation of a profile
 - Gamut viewers and what they can be used for

17:00 Session ends

18:00 - 19:00 Reception

Join us for beers, wines and good company!

Thursday 13 June 2019

09:00 Course begins

ICC profiles

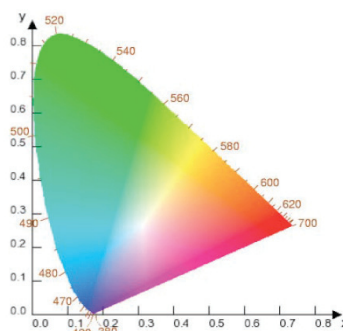
- Input profiles for RGB, CMYK and greyscale
- Impact of input settings (Profiles and Rendering Intents)
- Profile Connection Space or Device Links? What are the differences, what are the benefits?
- Output/printer profile options
- How to setup an automated workflow.

Spot colours in digital workflows

- Dedicated ink channel vs. colour replacement
- What does Pantone coverage mean?
- Assessing the results before printing (Color Preflight)
- Proofing / Softproof

Summary and recommendations - QA

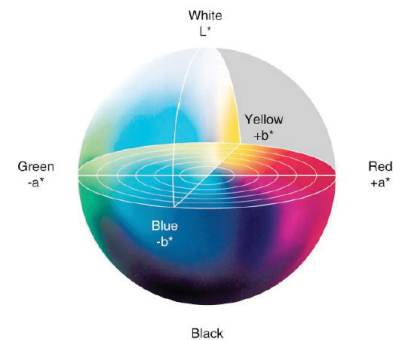
12:30 Course ends



COURSE LEADER

Gerrit Andre, Trainer and Product Specialist
ColorGATE

Gerrit joined ColorGATE in 2007 and initially served in the technical service team. Since 2012 he is member of the business development team and performs pre-sale services and consultancy. As a FOGRA certified Digital Printing Expert he acts as a consultant and trainer for workflow and colour management requirements of partners and customers for commercial and industrial digital printing applications.



Jetting Functional Fluids

Rheology, Deposition, Process & Development

Thursday 13 - Friday 14 June 2019

COURSE FOCUS

There is no doubt that digital deposition of fluids containing functional materials, using inkjet heads is an extremely attractive proposition: being able to place a tiny and highly controlled amount of fluid to a few microns of placement accuracy has the potential to transform conventional manufacturing processes. Whether the functional fluids have electronic, pharmaceutical or other attributes, the challenges of getting them to "jet" with suitable performance and to "functionalise" on the target substrate are common headaches for the material deposition community.

In this course we will focus on the practicalities of inkjet printing of these challenging fluids. We will consider in detail the basic building blocks of a material deposition inkjet system: the inkjet printheads, the ink or fluid, the motion platform and the substrate. We will look at the methods available to create printed structures that deliver the required performance. In addition we will provide a background on fine-tuning inks and their jetting waveforms to improve performance. The course will also provide a sometimes salutary background on the conventional manufacturing capabilities that must be matched for material deposition by inkjet to move into large scale production environments.

COURSE LEADERS

Dr Neil Chilton, Technical Director

Printed Electronics Limited

Neil has more than twenty years' experience in the field of electronics and electronic components. After completing his BSc and PhD in Physics, his technical career took him to Japan where he worked for four years at the advanced materials research division of Nippon Steel Corporation.



After returning to the UK he joined Europe's then largest printed circuit board manufacturing company where he was later part of an MBO team and technical director. In 2006 together with co-founder Dr Steve Jones, he started Printed Electronics Limited to focus on the practical use of inkjet for manufacturing electronic interconnects, devices and systems.

Dr Clare Conboy, Formulation Chemist

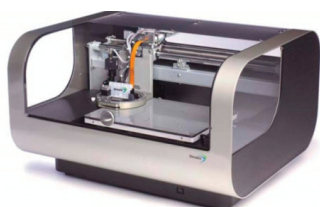
Printed Electronics Limited

Clare has more than 20 years' experience of formulating and characterising fluids for spray and printing applications. This includes many years of working with inkjet inks for piezo and thermal DOD printheads, initially for graphics and in recent years for materials deposition applications, including a diverse range of materials including metals, inorganics and adhesives in a range of solvent systems. Following completion of a PhD in Chemistry, she has worked for a number of organisations with a focus on inkjet technology, including Xaar and Plastic Logic. Clare has been involved with Printed Electronics Limited since its establishment.



LIVE DEMONSTRATIONS

As part of the course, Neil will be carrying out demonstrations using a Dimatix DMP deposition system - your chance to see this deposition platform in action, including built in drop-watcher.



Thursday 13 June 2019

12:30 - 13:30 Registration

13:30 Course begins

The basic components of an inkjet system for functional fluid deposition

- Heads
 - Choice of inkjet heads
 - Material compatibility
 - Drive electronics and systems
 - Selection criteria for inkjet heads
- Inks
 - Basic tests for potential inkjet inks and re-formulation options
 - Jetting methods to evaluate ink performance
- Inkjet platform
 - Buy or build?
 - Fundamental choices when deciding on a system
 - Accuracy and compensation methods
 - Control software considerations
- Substrate
 - Fundamentals of the substrate – ink interaction
 - Practical substrate characterisation
 - How to optimise your patterning
 - Surface treatment options
- Functionalising
 - Making the printed fluid into the printed "thing" you need
 - Thermal vs photonic methods for nano-metal materials
 - UV methods for dielectric type materials

17.00 Session ends

18.00 – 19.00 Reception

Join us for beers, wines and good company!

Friday 14 June 2019

09:00 Session begins

Inkjet image fundamentals

- A primer on printing bitmap images (when you really want a nice vector)
 - What is a bitmap?
 - Encoders and drive systems
 - Resolution and image conversion
 - Dealing with image artifacts
 - Software techniques

Ink delivery and ink management systems

- Filtration, heating/cooling, degassing and ink delivery
- Customised and commercial ink delivery systems

12:30 - 13:30 Lunch

13:30 Session begins

Practical applications and case studies

- Examples and lessons learnt
- Hands on with inkjet components

Moving functional printing to industrial scale

- System considerations, yield requirements and cost modelling

An overview of material deposition and printed electronics using inkjet

- Things that can (and maybe cannot) be done

17:00 Course ends



Inkjet Drying & Curing

Hardware & Chemistry for Fixing Inkjet Inks

Thursday 13 - Friday 14 June 2019

COURSE FOCUS

The Inkjet Drying & Curing course is intended to cover all of the necessary hardware and ink chemistry for fixing inkjet inks. The course will cover drying of aqueous and solvent inks, comparing different possible methods and including near-infrared (NIR) drying, ultra violet light (UV) curing and electron beam (EB) curing. The course covers both hardware and chemistry in detail.

The drying section will review the ink drying process, including adhesion, penetration into the substrate, rub resistance and print quality. The differences in behaviour on porous and non-porous media will be discussed.

Wavelength, absorption characteristics of inks, typical substrates and coatings will also be covered. The advantages and disadvantages of potential ink drying techniques will be reviewed.

The course gives an in-depth introduction to the UV curing process and its relevance to digital inkjet printing. The course introduces the fundamental chemistry and hardware required, assessing the pros and cons of each type available on the market. Finally the emerging technique of EB curing will be introduced, and its potential advantages reviewed.

Thursday 13 June 2019

12:30 - 13:30 Registration

13:30 Course begins

Drying aqueous and solvent inks

James Burbidge, Adphos Innovative Technologies

- Introduction
 - What is dry, and how dry is dry?
 - Ink makeup
 - Differences in inkjet heads and resulting chemistry
- The principles of:
 - Wetting & Setting
 - Absorption in Porous & non-porous Media
- Paper and ink characteristics
 - Spectral absorption of inks
 - Spectral absorption of paper
- Defining durability, liquid removal and measuring it
 - What are we measuring
 - Test procedures
- Comparison of systems
 - Drying processes
 - Dryer designs
 - Homogeneity due to focusing and airflow management
- Application examples
 - Machine layout and its influence

17:00 Session ends

18:00 - 19:00 Reception

Join us for beers, wines and good company!

Friday 14 June 2019

09:00 Session begins

UV curing fundamentals

Rob Karsten, Phoseon Technology

- Introduction to UV curing
 - The UV curing process
- Characterising UV sources
 - Wavelength
 - Peak irradiance
 - Energy density
 - Air-cooled systems
 - Water-cooled systems
- Application areas
 - Full cure
 - Pinning
 - Low migration
- Benefits of UV curing
- Latest advances in UV technology

UV curing considerations

Dr Tim Phillips, Catenary Solutions

- Physics of UV curing
- UV source comparison
- Safety considerations
- Integration challenges
 - Heat management
 - Stray UV
- Oxygen inhibition
- Single pass/multipass systems

12:30 - 13:30 Lunch

13:30 Session begins

Electron beam curing

Mikala Baines, ebeam Technologies

- Introduction to electron beam (EB) curing
 - The EB curing process
 - Chemistry and physics
 - EB Sources
 - Lamps
 - Systems
- Characterising EB Sources
 - Beam current
 - Dose
 - Voltage
 - Power
- Application areas
 - Conventional printing
 - Inkjet printing
 - Coating and varnishes
 - Migration results
- Benefits of EB curing
- Comparison with UV technology
- Future perspectives

UV cure chemistry

Dr Stuart Palmer, IGM Resins

- UV cure mechanisms
 - Free radical
 - Cationic
- Photoinitiator chemistry
- Monomer chemistry
- Oligomers and additives
- Curing issues
 - Oxygen inhibition
 - Other issues
- Print quality effects with UV inks

17:00 Course ends

COURSE LEADERS

James Burbidge, Technical Director Europe - Print Technology

Adphos Innovative Technologies

James has 10 years experience in digital printing, working both as a key technical trouble shooter for a market leading manufacturer of digital colour presses, and as technical lead in a large printing company responsible for the development of digital production.



Rob Karsten, Regional Director EMEA

Phoseon Technology

Rob Karsten is the Regional Director EMEA for Phoseon Technology, the world leader in UV LED technology. He has been with Phoseon pretty much from the beginning and has been responsible for building their business in Europe.



Dr Tim Phillips, Founder & Director

Catenary Solutions

Tim Phillips has extensive experience in challenging inkjet integration projects, spending eight years working at Xenica Technology Ltd, the leading inkjet solutions company that was acquired by Sensient in 2015.



Mikala Baines, Applications Development Specialist

ebeam Technologies

Mikala has 13 years printing experience in formulating UV, inkjet inks at Fujifilm. She also studied part-time to acquire her BSc in Chemistry with the University of Greenwich and the Open University. The scientific potential of electron beam drew her to work at ebeam Technologies.



Dr Stuart Palmer, Sales Manager

IGM Resins

After obtaining a degree and PhD in Chemistry, Stuart worked in UV-curing technology at Autotype and Fujifilm SIS (then known as Sericol). He then spent 10 years working in chemical distribution, which exposed him to many other coating technologies.





How to register

Please register on-line via our website:
www.imieurope.com

Registration for the IMI Europe Inkjet Summer School is priced per person, per course, with discounts available if more than one ticket is booked at the same time.

The registration fee includes a lunch during the full day of your course, an evening reception and refreshments during breaks.

We will check availability and email your registration confirmation together with an invoice with payment details.

Number of Tickets	Price per ticket
1	€895
2	€785
3	€715
4	€665
5	€625
6	€590
7	€565
8	€540
9	€520
10	€500

On-site registration is possible, with payment taken in cash and with a €200 addition to the ticket prices above.

Discounts

If you would like a quotation please email enquiries@imieurope.com with your requirement. Where multiple discounts apply we will allocate the two largest discounts to the total.

Booking policy

Cancellations will receive a 50% refund if made more than two weeks prior to the start of the event (i.e. on or before 24 May 2019). After this time, no refunds can be made, but your registration may be transferred to another IMI Europe or IMI Inc event at no charge. Name changes for a registration may be made at any time, free of charge, but please let us know before the event so we can update our records.

Location and Accommodation



The IMI Europe Inkjet Summer School 2019 will be held at the Møller Centre in Cambridge, UK. The Møller Centre is a world-class, dedicated residential leadership development and conference centre at Churchill College, in the University of Cambridge. The dominating element of the Centre is the octagonal tower – from the terrace on the top there is an incredible panoramic view over the city of Cambridge.



The IMI Europe Inkjet Summer School is a non-residential course, so accommodation is the responsibility of individual delegates. We have reserved a block of rooms at the Møller Centre at a preferential rate for event delegates of £130 per night. Rates include breakfast and WiFi.

To book your accommodation please email The Møller Centre directly quoting the reference **KX35356** to sales.moller@chu.cam.ac.uk.



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Email: enquiries.moller@chu.cam.ac.uk

	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00
Monday 10 June						Registration	Inkjet Academy				Reception
Tuesday 11 June		Inkjet Academy			Lunch	Inkjet Academy				Punt Trip	
Wednesday 12 June	Registration	Fluid Dynamics & Acoustics			Lunch	Fluid Dynamics & Acoustics				Reception	
Thursday 13 June		Inkjet Ink Characterisation		Registration	Inkjet Ink Characterisation		Jetting Functional Fluids			Reception	
Friday 14 June		Inkjet Colour Management		Lunch	Inkjet Colour Management		Inkjet Drying & Curing				
		Jetting Functional Fluids			Lunch	Jetting Functional Fluids					
		Inkjet Drying & Curing				Inkjet Drying & Curing					