Advanced INKJET TECHNOLOGY 2024

From January 29 to February 1, 2024

The Advanced Inkjet Technology Conference

School of Enginneering and Architecture of Fribourg, Switzerland
iPrint, Marly (Fribourg), Switzerland

PROGRAMME

MON 29.01

13:00-17:30
Technical program, Exhibitor profiles, Exhibits, Breaks, Networking time

TUE 30.01

09:00-18:10
Technical program, Exhibitor profiles, Poster Session, Exhibits, Breaks, Group Lunch

18:30-22:30
Conference Dinner

WED 31.01

09:00-14:30
Technical program, Exhibits, Breaks, Group Lunch

14:00-15:00
Optional iPrint Tour

14:00-17:30
Optional Exhibitor Equipment Demonstrations

THU 01.02

8:30-17:30
Advanced Inkjet Printing Workshop

iPrint

IS&T

Haute école d'ingénierie et d'architecture Fribourg
Hochschule für Technik und Architektur Freiburg

Hes·so

MONDAY 29 JANUARY 2024

13:00-17:00

@ School of Enginneering and Architecture of Fribourg

DAY 1

13:00 **Welcome**
Yoshinori Domae, iPrint (Switzerland)

13:10 **[Keynote] A Helicopter View of Ink Jet Printing**
Stephen Temple, Cambridge University (UK)

DROPLET GENERATION AND VISUALIZATION

14:00 **The Power of Waveforms and How to Find the Perfect One**
Raphael Wenger, Droptimize Sarl (Switzerland)

14:20 **Femtolitre Drop Generation in Industrial Inkjet Printheads**
Fernando Rodriguez Llorente, iPrint (Switzerland)

14:40 **Novel Jetting Status Inspection Method for Acquiring the Spatial and Temporal Information of Ink-jetted Droplets**
Dong-Youn Shin, Pukyong National University (South Korea)

15:00 **Exhibitor Presentations I**

15:20 **Exhibits and coffee**

INKJET-BASED PROCESSES IN NEW APPLICATION DOMAINS

15:50 **Biotech and Printing Technology for Next Generation Computer Storage**
Tomaž Karčnik, Marko Matijević, and Rok Luzar, BioSistemika d.o.o. (Slovenia)

16:10 **Inkjet Platform for Additive Manufacturing Processes in Electronics Production**
Jochen Seeser and David Hahn, Notion Systems GmbH (Germany)

16:30 **Indirect Part Printing by using Inkjet, in the New Innovative MoldJet Process**
Robert Teuber, Chóngliàng Zhòng, and Thomas Weißgärber, Fraunhofer Institut für Fertiungstechnik und Angewandte Materialforschung Dresden (Germany)

16:50 **Printing of Use-cases by Direct-to-shape Inkjet Printing with Industrial Robot**
Philip Kessler, iPrint, HEIA-FR, HES-SO University of Applied Sciences and Arts Western Switzerland; Florian Fässler, Polytype AG; and Danijel Tipura, MABI Robotic AG (Switzerland)

17:10 **Exhibitor Presentations II**

17:30 **Day ends**

TUESDAY 30 JANUARY 2024

09:00-22:30

@ School of Enginneering and Architecture of Fribourg and @iPrint

DAY 2

NOVEL PRINTING TECHNOLOGIES

09:00 **[Keynote] Can I jet any inkjet ink reliably?**
Tri Tuladhar, Trijet Limited (UK)

09:55 **Introduction of «GELART JET» Technology: Expanding Graphic Painting based on Valvejet Technology**
Ryo Idehara, Ricoh Digital Painting Company Ltd. (Japan)

10:15 **Transforming Industrial Manufacturing: Harnessing the Potential of Ultra High Viscosity Jetting for Functional Printing**
Ramon Borrell, Quantica (Germany)

10:35 **A New Printhead Generation that Breaks Technical Barriers of Inkjet Technology in Terms of Resolution and Ink Viscosity**
Patrick Galliker, Scrona AG (Switzerland)

10:55 **Exhibits and coffee**

NOVEL MICRO-MANUFACTURING TECHNOLOGIES

11:25 **The Possibilities for Printhead Manufacturers of Next Generation Electroforming**
Dave Dekker, Veco Precision (the Netherlands)

11:45 **Innovative Fabrication of Glass Nozzle Heads, Ink Manifolds, and Nozzle Guards for Advanced Inkjet Printheads using LIDE Technology**
Rafael Santos, Norbert Ambrosius, Aaron Vogt, and Roman Ostholt, LPKF Laser & Electronics SE (Germany)

12:05 **Ultrafast, 3D Laser Micro-manufacturing of Novel Glass-based Microfluidics**
Davide Farina and Alexander Steimle, FEMTOprint SA (Switzerland)

12:25 **Exhibitor Presentations III**

12:45 **Lunch**

LATEST NEWS ABOUT INKJET PRINTHEADS

14:00 **A Numerical Analysis of Piezoelectric Inkjet**
San Kim, Dong Kee Sohn, and Han Seo Ko, Sungkyunkwan University (South Korea)

14:20 **Epson's MEMS Technology: PrecisionCore—Development Strategy and Future Plan**
Eiju Hirai, Seiko Epson Corporation (Japan)

14:40 **Xaar's Ultra High Viscosity Technology: Redefining the Boundaries of Inkjet Printing**
Renzo Trip, Xaar plc (Sweden)

15:00 **Development of Effective Driving Methods for Inkjet Drop-on-demand Jetting of High Viscosity Liquids**
Takayuki Shimizu and Masakazu Hirata, SII Printek Inc., and Masanori Tamura, SEIKO FUTURE CREATION INC. (Japan)

15:20 **Poster session and coffee**

PIEZO SELF-SENSING: UNLOCK NEW OPPORTUNITIES

16:40 **[Focal Talk] Why Inkjet Printing Systems Need Closed-Loop Control**
Yoshinori Domae, iPrint (Switzerland)

17:10 **Recent Progress in Inkjet Monitoring based on Piezo Self-sensing**
Kye-Si Kwon, Jeong Yeop Jo, and Sang Hyeon Park, Soonchunhyang University (South Korea)

17:30 **In-process Ink Rheology Monitoring for Inkjet Printing using Piezo Self-sensing**
Sebastian Filliger and Luca Brügger, iPrint (Switzerland)

17:50 **Piezoelectric-based Monitoring of Pressure Variations in Inkjet Printheads**
Loïc Bullot and Carlos Chabert Ull, iPrint (Switzerland)

18:30 **Transporation to/from and conference dinner**

e.g. 22:30 **Day ends**

WEDNESDAY 31 JANUARY 2024

09:00-17:30

@School of Enginneering and Architecture of Fribourg

DAY 3

KEY TECHNOLOGIES OF INKS: FORMULATION, SUPPLY, AND DRYING

09:00 **Customized Design of Dispersing Agents and their Application: Improving Inkjet Ink Reliability and Performance**
Nils De Vos, ChemStream BV (Belgium)

09:20 **Printing Semiconductors Pixel by Pixel**
Franziska Krieg, Avantama AG (Switzerland)

09:40 **Liquid Diaphragm Pumps for Controlling Static and Dynamic Meniscus Pressure in Printheads**
Raphael Frey and Manuel Roos, KNF Flodos AG (Switzerland)

10:00 **Drying as a Digital Process**
Gunther Ackermann, Lambda Technology GmbH (Germany), and Christian Gächter, Lambda Technology GmbH (Austria)

10:20 **Exhibits and coffee**

WHEN INK DROPS MEET SUBSTRATES

10:55 **[Keynote] Inkjet dot spreading and liquid penetration: Modeling and analysis from solid- and liquid surface energies**
Ulrich Hirn, Graz University of Technology (Austria)

11:45 **Decoration of Plastic Pieces Directly from the Molding Tool Straight into the Printing Process**
Klaus Ammann, Mankiewicz Gebr. & Co. (Germany)

12:05 **Decreasing Observation Error for Rub Resistance of Printouts Located on Previously Bent Substrates: Development of Device and Method**
Frédéric Mondiot, Claudiu Neagu, and Serge Marchioni, Markem-Imaje, Dover Europe Sàrl; and Philip Kessler and Benoît Sahli, iPrint Institute, HEIA-FR, HES-SO University of Applied Sciences and Arts Western Switzerland; and Jan Huber and Gabrielle Thurnherr, iSIS Institute, HEIA-FR, HES-SO University of Applied Sciences and Arts Western Switzerland (Switzerland)

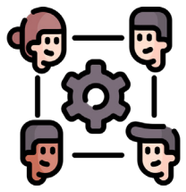
12:25 **Product Quality Evaluation for Textile Digital Prints**
Shasha Yang and Yi Ding, Donghua University (China)

12:45 **Conference ends & Lunch**

OPTIONAL PART

14:00-15:30 **iPrint Presentation & Visit**

14:00-17:30 **Exhibitor demonstrations at iPrint**



ADVANCED INKJET WORKSHOP

08:30-17:30

@ iPrint

DAY 4

4 OBJECTIVES

Discover how inkjet specific rheometers works and why they are key in developing a suitable ink

Explore various drop-watching stations to understand the nuances of waveform optimization across three different ink types

Acquire the skills to adjust ink system parameters, ensuring good print quality with two different ink types

Elevate your printing quality through expert guidance and gain the knowledge to effectively recover clogged printheads

5 SESSIONS

Inkjet rheology
TriJet equipment

Ink supply system
INKATRONIC GmbH / Neatjet Ltd. equipment

Drop watching
ImageXpert / Meteor Inkjet Ltd. / Droptimize equipment

Printing
People&Technology / INKATRONIC GmbH equipment

Printhead cleaning
People&Technology equipment

HANDS-ON WORKSHOP

SEPARATE REGISTRATION

LIMITED PLACES

12 PARTICIPATING SUPPLIERS

TriJet Limited
INKATRONIC GmbH
Neatjet Ltd.
ImageXpert
Meteor Inkjet Ltd
Droptimize
People&Technology
Polytype
AEWA Technologies GmbH
Seiko Instruments GmbH
Seiko Epson
Ricoh

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DAY 1

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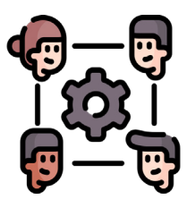
09:00-22:30

DAY 2

WEDNESDAY 31 JANUARY 2024
09:00-12:45 14:00-15:30 or 17:30

DAY 3



ADVANCED INKJET WORKSHOP
08:30-17:30

DAY 4

School of Enginneering and Architecture of Fribourg, Switzerland
iPrint, Marly (Fribourg), Switzerland

iPrint IS&T Haute école d'ingénierie et d'architecture Fribourg
Hochschule für Technik und Architektur Freiburg Hes·so