



Joint Conference of iarigai and the International Circle

50th International Research Conference of iarigai
Advances in Printing and Media Technology

“Printing goes functional”

55th International Annual Conference of the IC

“Future orientations for Print-Media Education”

Welcome!



Main Historic Building of ETH Zurich, where the conference will take place

Conference program

Welcome!

Welcome to the major scientific and educational event of the print and media field, the jointly held international conference of **iarigai** and **IC** taking place in Zurich, Switzerland this year. It runs from 8th to 11th September 2024 and is hosted by inspire AG, the leading research organization in Switzerland for production technology.

This year, the **iarigai** international research conference on "Advances in Printing and Media Technology" is celebrating its **50th edition** focusing on the general topic "Printing goes functional". For the International Circle, it will be the 55th International Annual Conference, this year under the topic of "Future orientations for Print-Media Education".

As a participant, you will learn about new findings and topical observations - information that will benefit both industry and the research and education community. Some program sessions are specifically directed at industry participants, notably the special high-level keynote sessions, where distinguished industry leaders will discuss the future of print towards functional printing and their needs and interests in research and education.

We are convinced that the conference days in Zurich will be instrumental in the international exchange of knowledge between researchers from various fields as well as between research, education, and industry in general. You will meet new and old colleagues and you will have the opportunity of networking with experts and industry representatives with different specializations. All this will contribute to the development of our field.

We look forward to meeting you in Zurich!

With our best regards,



**Prof. Fritz Bircher,
Conference Chair**

Day 1

Sunday, 8th September 2024

14:00 - 17:00 Board meeting

At the GEP Alumni Pavillon

18:00

Welcome reception at GEP Alumni Pavillon, Zurich

Registration start (at the Pavillon)



GEP Pavillon is at the west end of ETH historic main building (HG), Center campus

Day 2

Monday, 9th September 2024

08:30 - 09:00 Welcome coffee (Foyer D -Nord)

08:30 - 9:00 Welcome and registration

ETH Zurich, Center Campus, Historic Main Building, D-Floor, Foyer D-Nord

09:00 - 10:30 Opening session iarigai, Room D1.1

09:00 - 09:10 Opening of the conference

Fritz Bircher, President of iarigai and Conference Director

09:10 - 09:15 inspire - Welcome addresses

Dr. Martin Stöckli, COO inspire AG

09:15 - 09:20 ETH Zurich - Welcome addresses

Dr. Jan-Helge Zimmermann, Industry Relations, ETH Zürich

09:20 - 09:40 What can research do, to evolve with functional printing towards industry

Fritz Bircher, inspire Zurich

09:40 - 09:45 Introduction of new members

09:45 - 10:00 JPMTR - iarigai scientific publishing platform

Daniel Bohn, Editor-in-Chief

10:00 - 10:30 Invited opening presentation

A vision on functional printing in 2024

Bart Verlinden, YPI-SAS - Belgium

10:30 - 11:30 Plenary session 1 - New dimensions of printing, Room D1.1

Chair: *Fritz Bircher*

10:30 - 11:00 Keynote 1

Additive manufacturing in pure and high-density metals at the micro- and nanoscales

Dr. Alain Reiser, Assistant Prof., KTH Stockholm - Sweden

Prof. Ralph Spolenak, Chair of the Laboratory for Nanometallurgy, ETH Zurich - Switzerland

11:00 - 11:30 Keynote 2

Packaging, so what? - How fast changing market dynamics fuel the need for operational efficiency in packaging print production

Jan de Roeck, Director Industry Relations & Strategy, ESKO - Belgium

11:30 - 12:00 Coffee break (Foyer D -Nord)

Room D1.1

12:00 - 13:15 Session 2 A – Additive Manufacturing

Chair: *Erzsébeth Novotny*

12:00 - 12:25 Multi-material fused deposition modelling (FDM) technology for extended product's functionality and enhanced production flexibility

Li Yang, Henrik Petterson, Jonathan Olofsson and Philip Palmaer - Sweden

12:25 - 12:50 Research on the Design of Lightweight Energy-absorbing Bionic Structure for 3D Printing

Lin Lin Liu, Si Long Liu, Shao Xue Sun, Ruo Bing Han and Yi Lin Liu - China

12:50 - 13:15 AM printing of desoldering paste for the disassembling of electronic components from PCBs

Tomáš Syrový and Lucie Syrová – Czech Republic

Room D1.2

Session 2 B – Print Quality

Chair: *Cathy Ridgway*

Influences of printer speed, mesh and glass surface types on the quality and adhesion of screen-printed elements

Sandra Rosalen and Ulrich Jung - Germany

Objective Multi Parameter Surface Gloss Classification

Michael Dattner, Saira Viviani and Tim Stiene - Germany

Design of a color quality label in large format printing

Fons Put - Belgium

13:30 - 15:00 Lunch Dozentenfoyer

Room D1.1

15:00 - 15:50 Session 3 A – Print and Media Technologies

Chair: *Branka Lozo*

15:00 - 15:25 MetallicEffects – Graphic Design applications using the Bronzing Effect

Heiko Angermann, Thorsten Euler, Luca Härtel and Andreas Blaese - Germany

15:25 - 15:50 Towards Model- and Data-driven Automation and Control in Pad-Printing - Test Stand and Rheology Model development

Fabian Post, Dieter Spiehl, Edgar Dörsam and Andreas Blaeser - Germany

Room D1.2

Session 3 B – Print Material Science

Chair: *Li Yang*

Formulation of bio-based inks for pad printing on molded cellulose

Élise Jacachoury, Zeldá Montel-Ochs, William Pierron and Anne Blayo - France

Comparative color and gloss measurements on printed metallic surfaces

Carl Fridolin Weber, Hans Martin Sauer, Andreas Blaeser, Edgar Dörsam and Martin Schmitt-Lewen - Germany

16:00-17:15 **iarigai General assembly (appointed representatives iarigai only), Room D1.1**

17:15-18:00 **Board meeting (members only), Room D1.1**

Day 3

Tuesday, 10th September 2024

09:00 - 10:30 Opening session IC, Room D1.1

Chair: *Anastasios Politis*

09:00 - 09:10 Opening and welcome IC

Anastasios Politis, Chairman of IC

09:10 - 09:30 The role of education in functional printing

Anastasios Politis, Chairman of IC

09:30 - 10:00 Keynote 3

Gravure-printed electronics - Recent progress in tooling development

Dr. Jakob Heier, Head of Functional Thin Film Solution Processing, EMPA - Switzerland

10:00 - 10:30 Keynote 4

Mult-nozzle electrohydrodynamic printing as the road to beat inkjet limitations without compromising on economics

Julian Schneider, CPO Scrona AG - Switzerland

10:40 - 11:30 Plenary Session 4 - Advances in Print and Media Education 1 (IC), Room D1.1

Chair: *(Gunter Hübner)*

10:40 - 11:05 The Future of Cloud-Based Digital Printing Technology Education

Enn Kerner - Estonia

11:05 - 11:30 Enhancing User Experience and Human-Machine Interaction with Eye-Tracking Systems in the Printing Industry

Gerasimos Vonitsanos, Andriani Goutou, Evangelos Syrigos, Evgenia Pagani and Marios Tsigonias - Greece

11:30 - 12:00 Coffee break (Foyer D -Nord)

Room D1.1

12:00 - 13:15 Session 5 A – Sustainability (iarigai)

Chair: *Tomas Syrový*

12:00 - 12:25 Flexo printable glucomannan-based biofilm

Kholoud Al-Ajlouni, Sinan Sonmez and Alexandra Pekarovicova - USA

12:25 - 12:50 Natural plant dyes: sustainable inks set their own challenges

Patrick Gane, Katarina Dimić-Mišić and Monireh Imani - Finland

12:50 - 13:15 Formulation and printing of black coldset inks with bio-based pigments

Jérémy Manificier, Anne Blayo, Agnès Boyer and Jules De Bardonnèche - France

Room 1.2

Session 5 B – Print, Media and Packaging Science and Technology (IC)

Chair: *Daiva Sajek*

GRACE: "Steps forward in the Graphics Industries towards a Circular Economy"

Fons Put, Willem Uyttendaele - Belgium

Academic Publishing in the Digital Era: The Role of Cross-Media Publishing in Expanding the Scope and Accessibility of Research

Evgenia Pagani, Marios Tsigonias - Greece

Human Capital Development in the Printing Industry: Investigation in Sector-Oriented Approaches

Anastasios Politis and Ioannis Sofias - Greece

13:30 - 15:00 Lunch Dozentenfoyer

Room D1.1

15:00 – 15:50 **Session 6 A – Other (iarigai/IC)**

Chair: *Nona Woolbright*

15:00 - 15:25 Augmented Reality Experience and Perception Theory: A Quantitative Study Using Eye Tracking to Investigate How Mobile Phone Users Perceive Multiple Layered Depths

Donna Templeton - USA

15:25 - 15:50 Evaluation of the possibilities of accurate micro-image reproduction in digital printing systems

Daiva Sajek, Virgis Valčiukas, Gitana Ginevičienė and Vidas Vainoras - Lithuania

Room D1.2

15:00 – 15:50 **Session 6 B –Advances in Print and Media Education 2 (IC)**

Chair: *Evgenia Pagani*

PrintBase: context-based training on an electrophotographic press by implementing an on background knowledge based expert system

Heiko Angermann - Germany

Benefits of interactive H5P learning applications for implementing an activity-based learning approach for printing engineers

Bianca Gierth-Scheer and Ulrich Nikolaus - Germany

16:00 - 16:15 **Closing of the conference, Room D1.1**

Chair: *Fritz Bircher*

16:00 - 16:10 Wrap up

Fritz Bircher, Conference Director and President of iarigai
Anastasios Politis, Chairman of IC

16:10 - 16:15 51st International Research Conference, Pardubice, Czech Republic, September 2025
Presentation by the University of Pardubice (Tomas Syrový)

16:20-17:00 **IC General assembly (IC members only), D1.2**

18:00 – 19:00 **Apéro Zoocafé, Zoo Zurich**

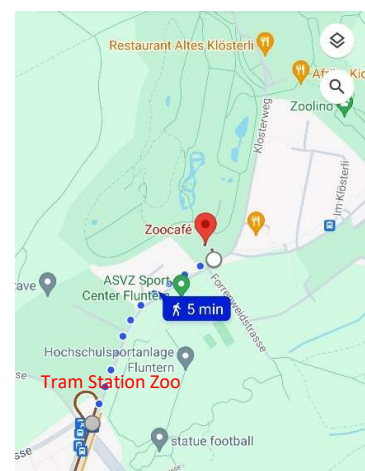
Take Tram n° 6 from Zurich Main Station or from ETH/Universitäts-spital till the tram end station Zoo (Fluntern). From there to the Zoocafé, walk 5 minutes (see map on the lower right-hand side).



19:00 – 19:55 **Guided Tour through Masoala Hall**

20:00 **Gala Dinner Altes Klosterli, Zoo Zurich**

The Restaurant Altes Klosterli is within 5 minutes walking from the Zoo.



Day 4

Wednesday, 11th September 2024

09:00 Meeting at ETH Zurich (main hall)

09:05 Departure at ETH
09:40 Arrival at Chromos Group, Dielsdorf
09:45 Visit of Chromos Group
10:45 Coffee break
11:00 Departure from Dielsdorf
11:30 Arrival at inspire, Zurich
11:40 Visit inspire
12:40 Departure from inspire
12:50 Stop at Zurich Main Station (drop off possibility)

13:00 Back at ETH Zurich

Trains leaving Zurich Main Station:

- in direction of Zurich Airport (every 10 minutes)
- in direction Bern/Basel (every 30 minutes)