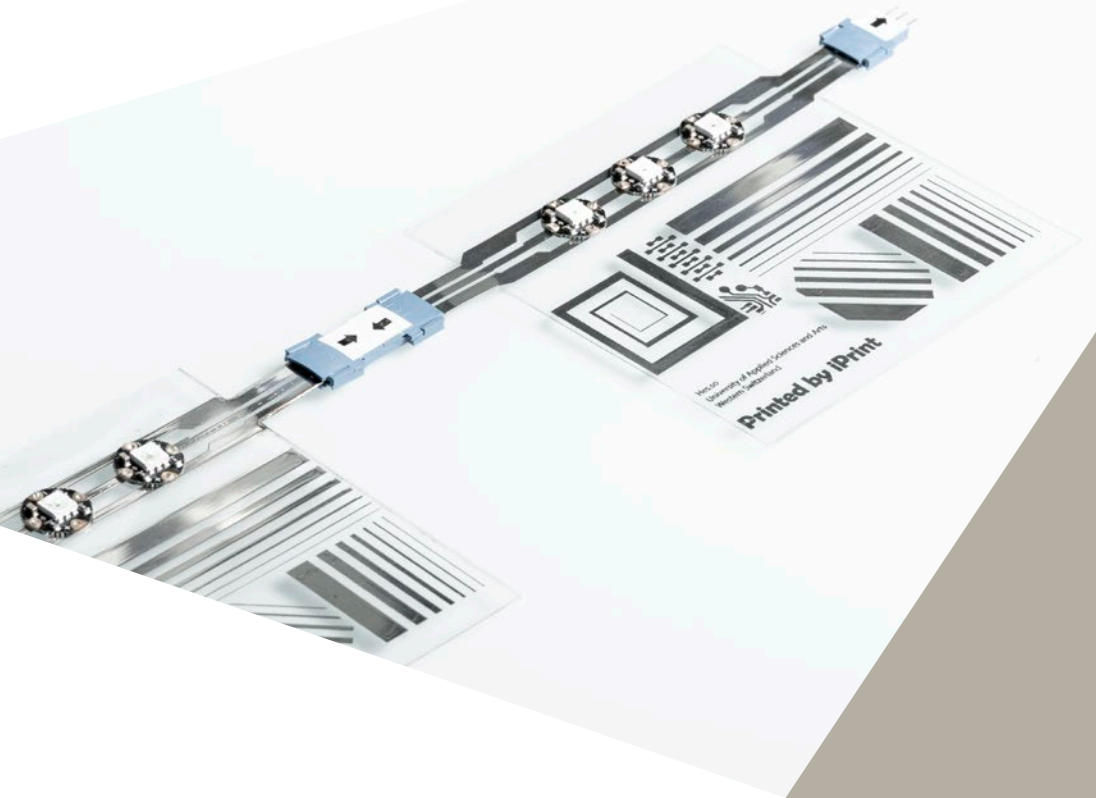




Haute école d'ingénierie et d'architecture Fribourg  
Hochschule für Technik und Architektur Freiburg



INSTITUTE FOR PRINTING

# iPrint

Manufacturing by Printing -  
Your Partner for Inkjet Technology  
in Research and Education

iPrint

Institute for Printing

Hes·SO

## iPrint, Institute for Printing

iPrint is a unique, internationally leading institute for applied research and development as well education in the domain of **inkjet technology** and **digital printing**. Supported by a multidisciplinary team of technology experts, engineers and technicians as well as close collaborations with a multitude of academic research partners and industrial material or equipment suppliers, iPrint continuously provides substantial contributions to innovative developments utilizing inkjet technology.



### Core Competences

iPrint's strength is a deep **mastery** of **inkjet technology** and the **steps** necessary for an inkjet-based **digital process**, including ink characterization, surface pre-treatment, print heads, printing and post-treatment. Our strong international network allows us to combine the most suitable materials and equipment to develop new processes and technologies. iPrint's continuous success in applied inkjet research is supported by a broad competence pool in both technology and process development.



### Research Areas

#### Innovative technologies for digital printing

Develop new technologies enabling the revolution in tomorrow's digital production. Examples are: improved inkjet print heads, new digital deposition and treatment methods.

#### Digital printing process developments

Develop and optimize inkjet-based digital printing processes. Examples of application domains are: graphical printing (e.g. direct-to-shape printing), printing for electronics (e.g. sensors, multifunctional structures, energy devices), biomedical printing (e.g. cells, proteins, drugs, dental restorations, implants), food printing (e.g. personalized nutrients) and advanced manufacturing, where we combine different digital printing processes (e.g. inkjet, valvejet, direct-ink-writing, material extrusion).

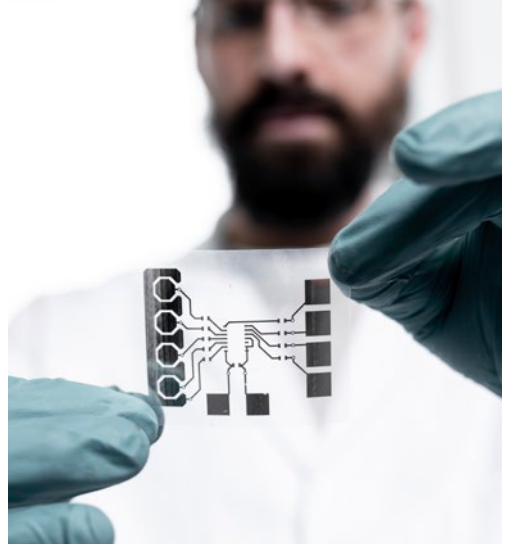




## Key Equipment

**More than 20 laboratories** attract both national and international project partners at iPrint, and feature:

- 40+ modular research printers and platforms
- 100+ industrial inkjet print heads from most manufacturers
- 10+ systems for drop analysis (drop watching)
- Measurement lab for ink, substrate and layer characterization
- Multiaxis robotic arm powered printer for direct to shape inkjet printing onto 3D objects
- Corona, flame & neutral plasma for substrate pretreatment
- UV curing stations (LED/ deuterium / mercury arc)
- IR / NIR dryers for water & solvent based layers
- Photonic curing unit
- R2R inkjet pilot line equipped with E-Beam curing system



## Team

The **highly multidisciplinary** and dynamic iPrint Team of more than 35 people comprises professors, research associates, R&D engineers and technicians. Their backgrounds include mechatronics, electronics, mechanics, material science, fluid dynamics, physics, chemistry and biology. Bachelor, Master and Phd students regularly join iPrint for their research and education.



## Education

iPrint Institute educates specialists in the core competencies and highly-interdisciplinary technologies used in inkjet applications. A five-day foundation course and three-day advanced courses (masterclasses) are offered in our permanently installed dedicated labs and training platforms.

**In the foundation course**, participants are given a multidisciplinary introduction to the main topics in inkjet technology. Every module is equally divided into theoretical and practical parts.

Advanced participants can join a **masterclass course** to deepen their knowledge of inkjet rheology or waveform development.



## Contact and Information

**Prof. Gilbert Gugler, Director of Operations & TechTransfer**

**Prof. Dr. Gioele Balestra, Director of Research & Education**

**Yoshinori Domae, Director of Technology & Innovation**

E-mail : [info@iprint.center](mailto:info@iprint.center)

Phone : +41 26 429 68 27

Internet : [iprint.center](http://iprint.center) | [iprint.heia-fr.ch](http://iprint.heia-fr.ch)

---

iPrint Institute  
Rte de l'Ancienne Papeterie 180  
1723 Marly  
Switzerland

*Communication service  
April 2023*