



LAB-ON-A-CHIP
FOR BIOMEDICAL USE



BLENDING INTENSIVE
PROGRAMME

LAB-ON-A-CHIP FOR BIOMEDICAL USE

Organized by
Pázmány ITK | Budapest, Hungary

ONLINE PHASE: 22-26 JUNE 2026

PROJECT WEEK: 29 JUNE – 3 JULY 2026

Credit value: 3 ECTS | Language: English



PÁZMÁNY

Pázmány Péter Catholic University
Faculty of Information Technology and Bionics



Politecnico
di Torino

FROM IDEA TO PROTOTYPE: MASTERING LAB-ON-A-CHIP TECHNOLOGY

This Erasmus+ Blended Intensive Program offers a hands-on journey into the development of Lab-on-a-Chip devices, guiding participants from the initial concept to a fully functional prototype. Students will gain practical skills in microfluidic system design, flow modeling using finite element simulations, and prototype fabrication, employing techniques such as photolithography, stereolithography, laser ablation, and 3D printing. The program also addresses prototype testing, parameter measurement, and system validation, providing a comprehensive overview of the complete development process in an international and collaborative learning environment.



TARGET GROUP:

- Students from any of Pázmány's partner universities are welcome to apply.
- The program is open to Bachelor's, Master's, and PhD students.
- Background requirements: Biomedical Engineering, Physics Engineering, Chemical and Food Engineering, Electronic Engineering, Environmental and Land Engineering, Materials Engineering, or related fields.

ONLINE PHASE: 22-26 JUNE 2026

- **Monday:** Welcome and introduction to the programme, Introduction of the students: Who? Why? What?
- **Tuesday:** Fundamentals of fluid dynamics in microfluidic systems; basic principles and mechanisms; key components of microfluidic devices
- **Wednesday:** Silicon fabrication: photolithography, microfabrication, and bonding
- **Thursday:** Plastic fabrication: materials, microfabrication, and bonding
- **Friday:** Project consultation; defining the main parameters of the lab-on-a-chip device

PROJECT WEEK: 29 JUNE – 3 JULY 2026, BUDAPEST

- **Monday:** Introduction and design
- **Tuesday:** Computational Fluid Dynamics (CFD) simulations
- **Wednesday:** Cartridge fabrication
- **Thursday:** Experimental setup and testing
- **Friday:** Presentations and feedback





FURTHER INFORMATION ON PARTICIPATION:

Steps for Participation:

- Contact your home university's International Office to inquire about the application period and selection criteria for this BIP.
- Apply for an Erasmus+ grant at your home university.
- Selected applicants will be notified by the end of April.
- Prepare for participation in the BIP.

Financial Information:

- Participation in the BIP is free of charge.
- Travel costs and meals are covered by the Erasmus+ grant (travel support + daily grant of 79 EUR/day for the project week).
- Pázmány ITK offers dormitory accommodation at a very reasonable rate and provides social programmes.

Deadline for nomination by the home university: 14 April 2026

Contact person at Pázmány ITK:

Ms. Mónika Barnáné Ódor
(international.office@itk.ppke.hu)

