

# Development of organ-on-a-chip testing platforms

special focus on dermal barrier

**Franciska ERDŐ**  
erdo.franciska@itk.ppke.hu

**Pázmány Péter Catholic University,  
Faculty of Information Technology and Bionics  
BUDAPEST, Hungary**

**Successful R&I in Europe 2024 - 11th European Networking Event on 15-16.02.2024 in Düsseldorf**

# TOPICS TO EXPLORE

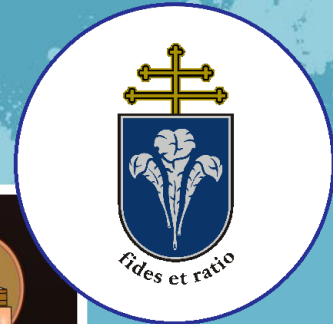
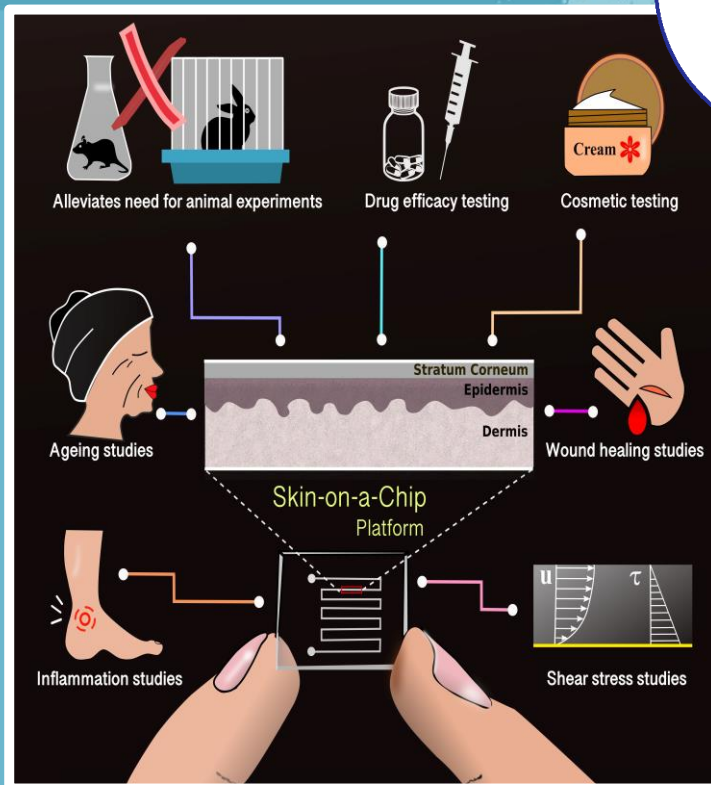


- Preparation of artificial tissues (full thickness skin or epidermal)
- **Testing skin properties (morphology, biochemical composition)**
- Preparation of Skin-on-a-Chip microfluidic platforms
- **Integration of skin, artificial skin or membrane into the systems**
- Using as evaluation platform for drugs, cosmetic products
- **Using for diagnostic and therapeutic assessment**
- Dermatological disease models on-a-chip
- **Integration of sensors to the systems**
- High throughput, 3D Bioprinting, 3D printing, electrospinning

# TOPICS TO EXPLORE

## Fields of utilization:

**Pharmacological screening**  
**Toxicological testing**  
**Cosmetic testing**  
**PK/PD testing**  
**Formulation optimization**  
**Biomarker analysis**  
**Diagnostic applications**  
**Development of artificial skin tissue**  
**Dermatological research**  
**Multi-organ chip developments**  
**Medicine, Pharmaceutical Industry**



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# TYPE AND ROLE OF THE PARTNER

**We are looking for a consortium leader and members**  
**Universities, R&D Institutes, SMEs, Big companies**



- Cell culturing, co-culturing, multi-organ
- **3D Bioprinting & 3D Printing**
- Histology, Immunohistochemistry, Optical imaging
- **Computational fluid dynamics (degassing, micropumps, medium)**
- Engineering, manufacturing
- **Micro- and biosensors (electrical, optical, electrochemical, metabolic etc)**
- Validation, comparison with gold standard methods
- **Human studies, in vivo Confocal Raman Spectroscopy**
- Marketing, Patenting, IP issues

# Scientific expertise we have



Microfluidics

Skin-on-a-chip design, fabrication and validation

Engineering

Mathematical simulation, prediction

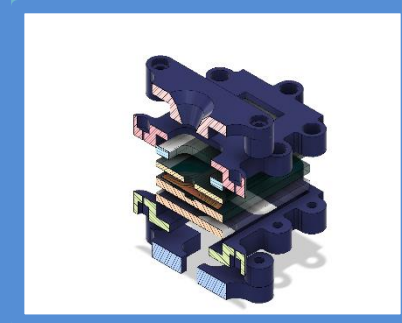
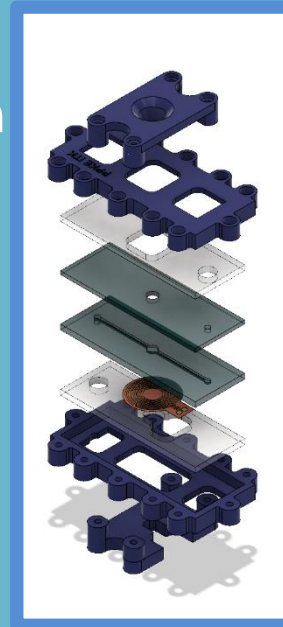
Pharmaceutical formulation

PK/PD studies

Penetration assessment

Artificial skin cell cultivation

Skin analysis, characterization



# Contact

Franciska Erdő, PhD, associate professor

Pázmány Péter Catholic University, Faculty of  
Information Technology and Bionics  
Práter u. 50a, H-1083 Budapest, Hungary

E-mail: [erdo.franciska@itk.ppke.hu](mailto:erdo.franciska@itk.ppke.hu)

Phone: +36-20-3541-081

Web: [Pázmány ITK - ITK.PPKE.HU](http://Pázmány ITK - ITK.PPKE.HU)

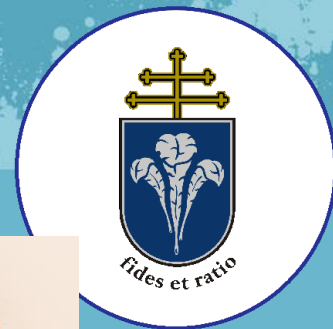
Actual calls:

[EIC Pathfinder Open 2024 \(HORIZON-EIC-2024-PA  
THFINDEROPEN-01\)](#) Deadline: 7 March 2024

[HORIZON-HLTH-2024-TOOL-11-02:](#)

Bio-printing of living cells for regenerative medicine

Deadline: 11 April 2024



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