**Project Partner Search Form**

[x]  I offer my expertise to participate as a Partner in a Horizon Europe Project

[ ]  I am planning to coordinate a project and I am looking for Project Partners

**TOPICS OF INTEREST**

[**HORIZON-HLTH-2024-TOOL-11-02**](https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2024-tool-11-02?tenders=false&programmePart=&callIdentifier=HORIZON-HLTH-2024-TOOL-11): Bio-printing of living cells for regenerative medicine

**PARTNER INFORMATION**

[Pázmány Péter Catholic University, Faculty of Information Technology and Bionics](https://itk.ppke.hu/en) is located in Budapest city center, Hungary. We have different research laboratories including informatics, electronics, robotics, biomicrofluidics and biomedicinal research, etc. We are escpecially interested in the development and characterization of artificial skin tissues. This product can be utilized in regenerative medicine (wound healing, burn injury etc) and pharmaceutical and cosmetic testing (topical and transdermal formulations). Dermatological models and pathological skin samples can also be analysed and assessed. For evaluation of the skins and skin substitutes we can use selfdeveloped microfluidic diffusion chambers (skin-on-a-chip), histological, immunohistochemical, microscopic and Raman spectroscopic techniques. To fabricate this artificial skins 3D bioprinting and in vitro 3D cell culturing technologies are currently available.

**For the above call we can offer the next capabilities:**

Fabrication of microfluidic devices (thermoregulation, flow through, computational fluid dynamics)

Mathematical modelling of drug penetration across the skins

Drug penetration experiments (traditional and innovative diffusion chambers)

Making drug and cosmetic formulations

3D bioprinting/3D cell culturing for artificial skins

Functional, biochemical and morphological analysis of the skins/skin substitutes (confocal Raman spectroscopy, permeability, barrier function, elasticity, hydration, cell-cell interactions, scaffold optimizations, electrospining etc)

Clinical samples for dermatological disorders would be requested from other partners. Also the serial production (manufacturing) of high throughput microfluidic testing platforms would be requested from other consortium members.

**Description of the Legal Entity**

[x]  Higher Education [ ]  Research Institution [ ]  Public Administration

[ ]  Industry /SME [ ]  NGO [ ]  Other: ***Please specify***

**Description of the (Research) Team**

Team Leader: Dr Franciska Erdő, PhD, pharmacist, pharmacologist, associate professor.

She received the MSc diploma of pharmacy at Semmelweis University in 1987. She then worked in domestic and foreign research institutes (Institute for Drug Research, Budapest, Biorex R&D Co., Veszprém, Max Planck Institute for Neurological Research, Cologne, Charité University, Berlin, University of Tours, France). Later, she also gained company research experience at Sanofi-Synthelabo Chinoin Pharmaceutical Company and at Solvo Biotechnology Co. She has been working at Pázmány ITK since 2014. She leads the Laboratory of Microdialysis and Pharmacological Techniques and teaches more subjects at the University. She is a supervisor of many BSc, MSc and PhD students. Currently, her main research interest is the investigation of physiological barriers, drug penetration through the barriers and the analysis and treatment of skin and hair in pathological conditions.

​Members of the team:

Young researchers, engineers, molecular bionics engineers, medical biotechnologists, dermatologists, PhD students, and graduate students. We have a scientific collaboration network with University of Tours, France; University f Vienna, Austria, University of Tübingen, Germany, Semmelweis University, Budapest, University of Debrecen, University of Szeged, Dermus Kft, Budapest, IvTEch Co, Pisa, Italy etc.

Top of Form

**Potential role in the project**

[x]  Research [ ]  Training

[ ]  Dissemination [ ]  Other: ***Please specify***

Already experience as a Coordinator [ ]  YES [x]  NO

 Partner [ ]  YES [x]  NO

 Expert Evaluator [x]  YES [ ]  NO

**CONTACT DETAILS**

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