PRESS RELEASE

Fraunhofer IGB joins international consortium to advance organ-on-a-chip technology in Europe

The consortium led by Leiden University Medical Center and the Dutch hDMT (human Disease Model Technologies) has been assigned by the EU with the task to create a roadmap for the future development of organ-on-chip technology. Its aim is to establish a European infrastructure to enable coordinated development, production and implementation of organ-on-a-chip systems. The consortium is funded by the EU FET-Open Program and brings together six leading European research institutions, including the Fraunhofer-Institute for Interfacial Engineering and Biotechnology IGB in Stuttgart, Germany.

The consortium's aim is to accelerate the societal and economic impact of organ-on-a-chip technology through coordinated action. Organs-on-chips combine human mini-organs with microelectronics, microfluidics and nanosensors. This technology is already providing new platforms for drug discovery but is poised to deliver applications in personalized medicine and safety pharmacology, and offers alternatives to conventional animal testing. Over the next two years, the EU will invest 0.5 million Euros in the ORgan-on-CHip In Development (ORCHID) project.

ORCHID will facilitate dialogue and documentation towards accelerating the development of prototypes of organs-on-chips, validated cell systems that mimic diseased or healthy human tissue, and implementation of this technology by a broad group of potential users in science, health care and industry.

Within the consortium, the Fraunhofer IGB will focus on the economic and educational aspects of the ORCHID project. Dr. Peter Loskill, head of the institute's research group on organ-on-a-chip systems, and his team will evaluate which skills are essential for the development and application of organ-on-a-chip technology. On this basis, it is possible to identify specific training contents for the further education of researchers, developers, and users. A further task of Dr. Loskill and his team will be the assessment of suitable business models for the commercialization of organ-on-a-chip systems, taking advantage of the extensive economic expertise of the Fraunhofer IGB as an application-oriented research institute.

Ultimately, ORCHID will build an infrastructure for scientists, policy makers, funders and end-users to join the decision-making processes that will direct future European developments in organ-on-a-chip applications. An essential contribution of ORCHID will be the establishment of a digital platform enabling knowledge sharing between researchers and representatives of private corporations including insurance companies, pharmaceutical and biotech companies, food industry, health foundations and patient organizations.

The ORCHID platform will provide overviews and updates of current and new organ-on-a-chip initiatives so that users can track progress easily, consult developers directly and identify gaps in present knowledge, limiting implementation. ORCHID will also address ethical and regulatory issues, particularly concerning personalized information, economic and societal impact, training of researchers, and the design of an R&D roadmap.

The consortium is composed of the following organizations:

- Leiden University Medical Center, the Netherlands; coordinator
  contact: Christine Mummery, PhD, Professor of Developmental Biology, Chair Dept. of Anatomy
- Organ-on-Chip consortium hDMT, the Netherlands; strategy and the roadmap
  contact: Janny van den Eijnden van Raaij, PhD, Managing director
- Fraunhofer IGB, Germany; Peter Loskill, PhD, Attract Group Manager Organ-on-a-chip, Department of Cell and Tissue Engineering
- CEA LETI, France; eco-system development and the digital platform contact: Adrienne Pervès PhD, Deputy Head of Department-LETI-Technologies for biology and health
- Imec, Belgium; ethical aspects, regulation and standardization contact: Wolfgang Eberle, PhD, Funded Program Manager Smart Health and NERF Coordinator EIT Health
- University of Zaragoza, Spain; dissemination contact: Luis Fernandez, PhD, Professor Mechanical Engineering, Dept. of Applied Mechanics and Bioengineering

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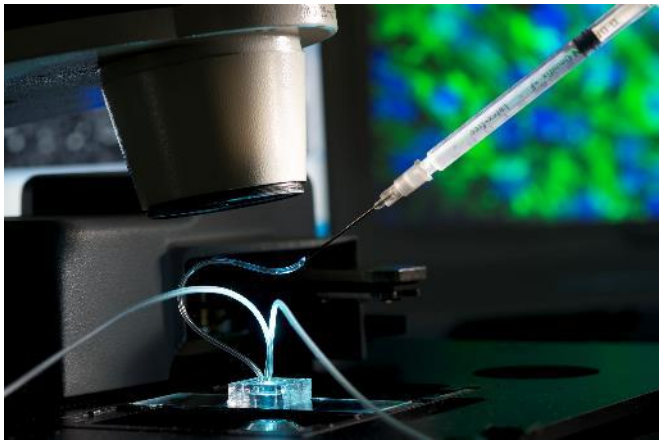

Microphysiological Organ-on-a-chip system.
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