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European Organ-on-Chip Society open for active membership

The founding phase is complete: the European Organ-on-Chip Society (EUROoCS) is now welcoming members to join. The annual conference, held this year in Graz (Austria), saw launch of the community website and the start of its availability as an information resource. “We invite scientists, engineers, as well as regulators and patient representatives interested in these new laboratory models to become active members of the society and contribute to efforts of the Organ-on-Chip community in promoting recognition and implementation of this exciting research field,” says Christine Mummery, chair of EUROoCS and professor of Developmental Biology at Leiden University Medical Center, the Netherlands.

Organ-on-Chip (OoC) systems are among the latest emerging technologies for healthcare research. It is believed they will accelerate drug discovery, advance drug efficacy and toxicology testing and open new opportunities for personalized medicine. “Organ-on-Chip systems can reduce and perhaps eventually replace animal experiments and provide predictive human data before expensive and lengthy clinical trials actually start,” vice-chair Peter Loskill says. The biophysicist heads the Organ-on-Chip research group at the Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB in Germany.

Building a community network

Although the potential of OoC technology is high, it is also very complex. Organ-on-Chip systems hold human cells, tissues or mini-organs in mimics of their own microenvironment while they perform real-life tissue functions. This requires considerable interdisciplinary collaboration – especially between biology, engineering and physics, disciplines only recently in close contact. “We established the European Organ-on-Chip Society to bring together all relevant stakeholders and build an expert network. In this way we provide a platform for exchange of scientific knowledge across disciplines and collaboration opportunities,” says Janny van den Eijnden-van Raaij, secretary of EUROoCS and managing director of the Dutch institute hDMT. “Involving all stakeholders at an early stage is key to success and rapid development of Organ-on-Chip technology.”

Many scientists with interest registered earlier are now invited to contribute and participate actively in the OoC community.

Making the difference

High on EUROoCS agenda is identifying “showcases” that demonstrate the potential of OoC-technology and how it can make a difference in discovery of safe and effective

drugs. EUROoCs promotes the development of reliable and robust model systems, open technology platforms, standardization and discussion of ethical aspects. "We have to work on approaches for the integration of physical or chemical sensors, and ensure that the test systems deliver reproducible and comparable results and can also be standardized from a regulatory point of view," says board member Albert van den Berg, professor of sensor systems for biomedical and environmental applications at the University of Twente, the Netherlands. "Furthermore, we need to think about the manufacturability and integration in the user's workflow at an early stage if we want to have real impact."

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Membership benefits

The society is open to individual researchers and students worldwide and to individual representatives of industry and regulatory agencies. Anyone with a real interest in Organ-on-Chip technology is welcome to join and share ideas and knowledge. Student members enjoy a 50% reduction on the € 40,- annual membership fee.

Member benefits include exclusive access to the digital platform (with forum, research projects and expert profiles), discounted registration for the annual conference and up-to-date information on advances and activities in the OoC field.

Stay tuned and join the Organ-on-Chip Society: <https://euroocs.eu/become-a-member/>
Become part of a growing network and help move this emerging technology forward.

About Organ-on-Chip systems

An Organ-on-Chip is a fit-for-purpose microfluidic device, containing living engineered organ substructures in a controlled microenvironment, that recapitulates one or more aspects of the organ's dynamics, functionality and (patho)physiological response in vivo under real-time monitoring.

Organ-on-chip models are expected to result in a paradigm shift for healthcare, leading to new ways to elucidate disease mechanisms in humans, identify effective drugs and improve health by prevention and personalized cure of many diseases.

About EUROoCS

The European Organ-on-Chip Society (EUROoCS) is an independent, not-for-profit organization established to encourage and develop Organ-on-Chip research, and to provide opportunities to share and advance knowledge and expertise in the field towards better health for all. EUROoCS was launched November 2018 during the 3rd International Organ-on-Chip Symposium at the University of Technology in Eindhoven, the Netherlands.

EUROoCS is an outcome of the Horizon 2020 project ORCHID (Organ-on-Chip in Development) carried out by a European consortium of seven partner organizations.

<https://euroocs.eu/>

About ORCHID

FRAUNHOFER INSTITUTE FOR INTERFACIAL ENGINEERING AND BIOTECHNOLOGY IGB

The Horizon 2020 ORCHID project (Organ-on-Chip development) is an EU initiative, coordinated by Leiden University Medical Center and the Dutch Organ-on-Chip consortium hDMT in the Netherlands. The main goal of ORCHID is to create a roadmap for Organ-on-Chip technology and to build a network of all relevant stakeholders in this promising innovative field. In the two years ORCHID project that started on 1 October 2017 in total seven leading European research institutions from five different European countries are involved.

H2020-ORCHID.eu

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About hDMT

hDMT (Institute for human Organ and Disease Model technologies) is a pre-competitive, non-profit, technological research institute, in which renowned scientists from 15 Dutch organizations (academic research centers, research institutes, University Medical Centers, and biotech companies) work together. In this consortium hDMT researchers share and integrate their knowledge, expertise and research facilities in technology, biology, physics, chemistry, pharmacology and medicine to develop Organs-on-Chips largely using human stem cells. hDMT aims to disseminate Organ-on-Chip models and research data via open access publication and valorization.

www.hdmt.technology

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The **Fraunhofer-Gesellschaft** is the leading organization for applied research in Europe. Its research activities are conducted by 72 institutes and research units at locations throughout Germany. The Fraunhofer-Gesellschaft employs a staff of more than 25,000, who work with an annual research budget totaling 2.3 billion euros. Of this sum, almost 2 billion euros is generated through contract research. Around 70 percent of the Fraunhofer-Gesellschaft's contract research revenue is derived from contracts with industry and from publicly financed research projects. International collaborations with excellent research partners and innovative companies around the world ensure direct access to regions of the greatest importance to present and future scientific progress and economic development.

The **Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB** develops and optimizes processes, technologies and products in the fields of health, chemistry and process industry, as well as environment and energy. We combine the highest scientific standards with professional know-how in our competence areas – always with a view to economic efficiency and sustainability. Our strengths are offering complete solutions from the laboratory to the pilot scale. Customers also benefit from the cooperation between our five R&D departments in Stuttgart and the institute branches located in Leuna and Straubing. The constructive interplay of the various disciplines at our institute opens up new approaches in areas such as medical engineering, nanotechnology, industrial biotechnology, and environmental technology.