

Competence Centre TEDD

Tissue Engineering for Drug Development and Substance Testing

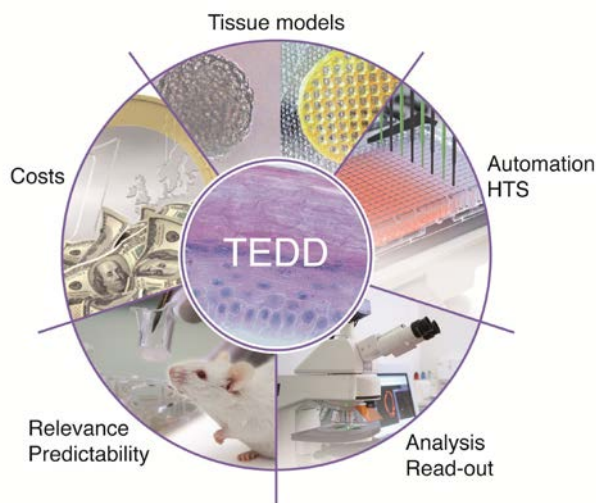
TEDD Report 2014

The world's first centre of its kind

The results of drug tests using conventional cell cultures have only limited applicability for transfer to humans. In the future, three-dimensional *in vitro* tissue models will provide more reliable results. It will be possible to accelerate the cost intensive process of drug development and to reduce the number of animal experiments.

In order to develop these complex tissue systems successfully, the cooperation of partners with complementary skills (academia and industry, in particular biotechnology, pharmaceutical, medtech and cosmetics companies) is required.

The TEDD competence centre is, therefore, pursuing the goal of pooling knowledge and technological information associated with *in vitro* cell and tissue cultures by promoting networking amongst partner organisations. In order to achieve this goal, TEDD organises workshops, symposia and other events for its members. The competence centre wishes to provide impetus to network projects, encourage innovative ideas and assist its members in accessing the market. It also aims to promote the development of technical quality standards and establish itself as a point of contact for public authorities. TEDD is the first centre of its kind.



Organisation

The Competence Centre is embedded in the Zurich University of Applied Sciences (ZHAW), in the research consortium *biotechnet* Switzerland and the National Thematic Network (NTN) *Swiss Biotech*. TEDD was founded 2011 by ZHAW and InSphero AG and received initial funding from Gebert Ruef Foundation.

TEDD is guided by a steering committee:

- Ursula Graf, ZHAW, Waedenswil
- Katharina Maniura, Empa, St. Gallen
- Jens Kelm, InSphero AG, Schlieren
- Oliver Peter, Actelion, Allschwil
- Christoph Rindlisbacher CELLnTEC, Bern

An advisory board is involved to define well adapted strategies with the final goal to implement 3D cell culture into routine application. Members are

- Markus Ehrat, EK Bioscience, Magden
- Dave W. Grainger, University of Utah, USA
- Uwe Marx, TU Berlin and TissUse GmbH, Germany
- Thomas Singer, Hoffmann-La Roche, Basel
- Marcus Textor, ETH, Zurich

Financing

TEDD is part of the technology platform "Tissue Engineering" within the research consortium *biotechnet Switzerland*. *biotechnet* itself belongs to the National Thematic Network *Swiss Biotech*, which is funded by the Commission for Technology and Innovation CTI, the Swiss Confederation's innovation promotion agency. An annual budget to support TEDD activities can be submitted to *biotechnet*.

ZHAW finances 0.5 FTE for administrative and strategic tasks within TEDD. The members of steering committee and advisory board work free of charge.

TEDD partners pay an annual fee of CHF 500.-. Partnership benefits:

- Information, knowledge and technology transfer
- New contacts within the 3D cell culture community, nationally and internationally
- Find suitable collaboration partners for scientific projects or product development and implementation
- Access to TEDD events at discounted prices
- Possibility to communicate/publish on the *biotechnet* platform and access to specific literature (cost-free)
- Access to market

TEDD partners

People from various fields are welcome in the TEDD network: experts from basic research, applied and clinical research, technology companies, the pharmaceutical and cosmetic industries, medical product manufacturers, funding associations and clusters.

Partners have the opportunity to actively contribute to the TEDD platform and take advantage of the activities available. Applications for start-up funding of CHF 10,000 for network projects are assessed and approved by the steering committee. Network projects that are developed on the TEDD platform are published on the website (confidentiality is guaranteed).

During the past two years, numerous network projects have been initiated and carried out. These projects will be presented at the annual meetings.

TEDD events

In order to combine research and industry TEDD organises activities like workshops, seminars, symposia, company visits, special issues for scientific reviews and provides a platform to generate research consortia and network projects.

Selected TEDD activities during the last three years

- Several Workshops with topics like bioprinting (2011), 3D microtissues (periodically), skin models (2012), barrier models (2013), disease models (2014), liver models (2014)
- International, three-day symposia in Zurich (2012) and Freiburg/Breisgau (2014) on "3D cell culture", in association with Dechema
- Networking events like company visits to Actelion and Givaudan (2012), to Hoffmann-La Roche, Novartis and Geistlich (2013), to regenHU (2014)
- Annual Meetings with talks and exhibition in Waedenswil
- Special TEDD session during the European Summit for Clinical Nanomedicine and Targeted Medicine CLINAM (2013)
- Special Issue in Advanced Drug Delivery Reviews ADDR "Innovative tissue models for drug discovery and development" (19 reviews 2014)

- Forming consortia and submission of proposals like NRP “3D meets 3R – Organ-like tissue models with prospects for medicine and animal welfare” (2014)
- Numerous network projects were initiated, completed or are ongoing

Vision and Next Steps

In the coming years, the centre aims to establish itself internationally as an important point of contact for issues relating to three-dimensional cell and tissue systems. The goal is to steadily increase the number of partners. Company visits, workshops, meetings and symposia will continue to promote active knowledge sharing and technology transfer.

In order for the partners to fully profit from each other, a database will be created in which the partners, their areas of expertise and those of their companies will be listed. It will also contain information on current and completed research projects.

Network project ideas that have potential for innovation will be identified and implemented. Research consortia will be formed and supported to submit proposals for national and international calls, e.g. EU calls.

Contact

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