

Zurich University
of Applied Sciences

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Life Sciences and
Facility Management

Institute of
Chemistry and Biotechnology

25th October 2018

TEDD Annual Meeting

Advanced in vitro models analysis

TEDD Competence Centre Tissue Engineering for
Drug Development and Substance Testing

Campus Grüental,
Wädenswil, Switzerland

www.zhaw.ch/ichbt/tedd

Advance in vitro models analysis

During the past two decades, we have witnessed significant scientific and technical advances in the fields of drug discovery and translational medicine along with advances in predictive in vitro model systems. As of now, microfabrication techniques and tissue engineering have enabled the development of a wide range of 3D cell culture technologies, including multicellular spheroids, organoids, scaffolds, hydrogels, organs-on-chips, and 3D bioprinting, each with its own advantages and disadvantages. 3D culture models have been penetrating into the early drug discovery process, starting from disease modeling to target identification and validation, screening, lead selection, efficacy, and safety assessment.

However, challenges remain in standardization with respect to culture and assay protocols, phenotypes, and gathering output data for analysis. Assays using 3D cell models are far more complex and less developed with respect to imaging, analysis, quantification, and automation compared with established 2D methods. Improvements in imaging modality, data acquisition throughput, and analysis tools are necessary for the wide adoption of 3D cell cultures for screening. Regulatory authorities have yet to accept data obtained from 3D cell models, such as organoids or organs on-chips, as a surrogate for preclinical animal testing.

This year's TEDD Annual Meeting brings together experts from diverse fields with a shared interest in advanced 3D models. The idea is to help to foster collaborations between 3D cell culture developers, and experts in advanced analysis methods: microscopy, sensors, data modelling and high-throughput screening. Several companies will exhibit during our famously long lunch break at the Greenhouse, where we have the opportunity to interact. Join us for this meeting to celebrate another fruitful collaboration year with the new perspectives ahead.



Michael Raghunath
Director,
TEDD Competence Centre



Dr Katarzyna Kopanska
Project Manager,
TEDD Competence Centre

Thursday, 25th October 2018

09.00	Registration and welcome coffee
09.30	Welcome address tbd
09.35	Opening of the meeting Prof Dr Michael Raghunath, Head of TEDD Competence Centre, ZHAW Zurich University of Applied Sciences, Switzerland
09.45	Keynote: Drug screening using biofabricated 3D tissue-in-a-well models Dr Mark Ferrer, National Institutes of Health, NCATS Chemical Genomics Center, USA
10.30	Advanced cell culture technology for generation of in vivo-like tissue models Prof Dr Stefan Przyborski, Durham University and Reprocell Europe Ltd, UK
11.00	Monitoring cell culture conditions Dr Dieter Ulrich, CSEM Center Landquart, Switzerland
11.30	Compound screening in 3D cell cultures on a 2-photon microscope with fully integrated multi-channel microfluidic perfusion Dr Martin Rausch, Novartis, Switzerland
12.00-12.20	Dr. Max Lüthi Award 2018 Lecture by Fabienne Arn, ZHAW «Structural optimisation of matrixmetalloproteinase-13-inhibitors»
12.20-14.20	Networking lunch & exhibition



14.20	<p>Keynote: Observing three-dimensional biological specimens with light sheet-based fluorescence microscopy (LSFM) under near-natural conditions Prof Dr Ernst H.K. Stelzer, Goethe Universität Frankfurt am Main, Germany</p>
15.05	<p>Development of a technology platform for high throughput screening of 3D cell cultures using flow cytometry Dr Andreas Meyer, FGen GmbH, Switzerland</p>
15.35	<p>Between genes and patients – organoid-driven precision medicine Dr Sylke Hoehnel, SUN bioscience, Switzerland</p>
16.05	<p>Screen-ovation: a novel in vitro platforms for anti-fibrotic drug development Dr Carmel B Nanthakumar, GlaxoSmithKline, UK</p>
16.35	<p>What are the optimal readouts when using vitro skin as a screening tool? Prof Sue Gibbs, Amsterdam UMC, The Netherlands</p>
17.05	<p>Final remarks and TEDD next steps Prof Dr Michael Raghunath, Head of TEDD Competence Centre, ZHAW, Switzerland</p>
17.20	Aperitif and networking

Exhibitors

ThermoFisher
SCIENTIFIC

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Best conditions for your success

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 **BioTek**[®]


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Discovery
Constance
HDC

LOT
 Quantum Design

OLYMPUS


Promega

 **STEMCELL**[™]
TECHNOLOGIES


UPM
The Biofore
Company

 **abc biopply**
applied biomedical concepts

 **biogelx**

biotechne[®]

 **CELLBOX**
SOLUTIONS GMBH


greiner bio-one


IMACTIV-3D

 **OLS**[®]
OMNI Life Science

OPTICS 

BACHEM

Further Details

Costs

TEDD partners (two delegates/partner):

no entrance fee

other participants:

CHF 150.-

Students:

CHF 75.-

Registration

Opens: 3. September 2018

Deadline: 15. October 2018

Contact

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ZHAW School of Life Sciences and Facility Management

Einsiedlerstrasse 31, CH-8820 Wädenswil, Switzerland

Venue:

ZHAW School of Life Sciences

and Facility Management

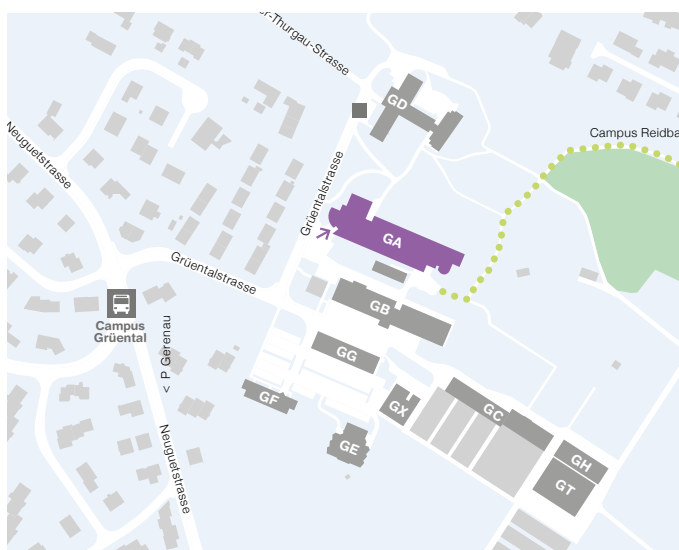
Campus Grüental, Aula GA 203 (talks)

and Kalthaus GC 181 (exhibition)

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