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Kirkstall

In collaboration with the **Swiss Centre for Applied Human Toxicology**



Hands-on Training: *in vitro* flow system and FAIR data integration for safety assessment

*Joint workshop and hands-on training on advanced cell
culture flow system and implementation of FAIR data
principles for safety assessment*

**The participants will receive a “Certificate of Participation” as part of Continuous
Professional Development**

7-8 February 2019

Technology Park, Hochbergerstrasse 60C

Basel, Switzerland

www.douglasconnect.com

Background

The training is organised at [Douglas Connect](#) facilities in Basel, Switzerland in collaboration with the [Swiss Centre for Applied Human Toxicology](#) (SCAHT) and [Kirkstall Ltd.](#)

The event is dedicated to scientists from the chemical and pharmaceutical industry, academics, consultants and CROs interested in the application of advanced cell culture systems, to gain experience with state-of-the-art experimental data management and integrated *in vitro* - *in silico* approaches, including an overview on regulatory guidance on the use of alternative methods for safety assessment of chemicals and drug development.

The training includes both theory and practices of advanced cell culture techniques and data management practices through a combination of lectures, demonstrations and practical hands-on experience. The event combines hands-on training with seminar sessions, to ensure participants have all the necessary skills and knowledge to commence work using the cell flow conditions for either industrial or academic applications.

A hands-on lab training will be given using the [Quasi Vivo®](#) system, an advanced interconnected cell culture flow system, engineered to provide *in vivo* like conditions for cell growth.

The latest data management approaches, applied within [EU-ToxRisk](#) and [OpenRiskNet](#) projects towards making *in vitro* experimental data findable, accessible, interoperable and reusable (FAIR data principles), will be presented and demonstrated during the training. Ongoing discussions on FAIR are mainly related to large projects and public databases, but we will show that following these concepts is also very beneficial when used inside a single institution to improve the sustainability of data and the reproducibility of research.

Get familiar with organ-on-a-chip technology and learn how *in vitro* & *in silico* data integration can enhance your research and apply to safety assessment!

Agenda

Day 1 - 7 February 2019

09:00 - 09:15	Welcome and introduction to workshop activities
09:15 - 10:45	Lectures: <ol style="list-style-type: none">1. Regulatory considerations (Dr. Rex FitzGerald, SCAHT)2. Early drug development (<i>speaker to be confirmed</i>)
10:45 - 11:00	<i>Coffee break</i>
11:00 - 12:00	<ol style="list-style-type: none">3. Introduction to flow systems using Quasi-Vivo® (by Kirkstall)4. Best practices in data management and application of FAIR data principles (Dr. Thomas Exner, Douglas Connect)
12:00 - 13:00	<i>Lunch break (not included)</i>
13:00 - 13:30	<ol style="list-style-type: none">5. Choosing and Calibrating a Pump for Quasi-Vivo® system (by Kirkstall)
13:30 - 15:00	Parallel demonstration (session I) Group 1 - Lab demo: <ul style="list-style-type: none">- Assembling Quasi-Vivo® system- Priming Quasi-Vivo®- Calibration of Pump- Transfer of cells and start flow experiment Group 2 - Data demo: <ul style="list-style-type: none">- Data management and data integration workflows- Data and metadata schemas creation and use- Preparation and uploading of data using Edelweiss DataExplorer application
15:00 - 15:30	<i>Coffee break</i>
15:30 - 17:00	Parallel demonstration (session II) Group 1 - Data demo / Group 2 - Lab demo
17:00	End of training day 1

Day 2 - 8 February 2019

09:00 - 09:30	Lectures: 6. OpenRiskNet, an open e-infrastructure to support data sharing, knowledge integration and <i>in silico</i> analysis and modelling in risk assessment (Dr. Thomas Exner, Douglas Connect)
09:30 - 11:00	Parallel demonstration (session III) Group 1 - Lab demo: <ul style="list-style-type: none">- Check experiment and reverse flow- Remove cells, cell viability assay, empty and wash chambers Group 2 - Data demo: <ul style="list-style-type: none">- Use of the data API and Jupyter notebooks in modelling applications (demonstration on OpenRiskNet case studies)
11:00 - 11:30	<i>Coffee break</i>
11:30 - 12:00	7. Applications of Quasi-Vivo® (by Kirkstall)
12:00 - 13:00	<i>Lunch break (not included)</i>
13:00 - 14:30	Parallel demonstration (session IV) Group 1 - Data demo / Group 2 - Lab demo
14:30 - 15:30	Discussion of the results, training outcomes and feedback: <ul style="list-style-type: none">- Use of Quasi-Vivo® flow system, design of 3D and co-culture experiments- Data management and integration testing approaches
15:30	End of training day 2