

Biointerfaces International Seminar (BIS), ETH Zurich, Switzerland, Sept 12, 2022				
Focus of Seminar and Conference (1 of 3 days): Organoids, Organ-on-Chip, Lab-on-Chip, 3D Imaging, Verification and Validation				
Time slots	Topic / Titles	Lecturers	Keywords	Chairs
09:00 - 09:10	Welcome & Introduction	Barbara Rothen-Rutishauser , Adolphe Merkle Institute, University of Fribourg, CH		
Opportunities and limitations of <i>in vitro</i> – <i>in vivo</i> assays				
09:10 - 09:50	Lecture 1 (Intro, Overview) <i>21st Century Cell Culture for 21st Century Research</i>	Thomas Hartung , Johns Hopkins Bloomberg School of Public Health, US	<i>Bioengineering, Stem Cells, Microphysiological Systems, Organoids, Organ-on-Chip, Good Cell Culture Practice, Reporting Standards, Validation</i>	Barbara Rothen-Rutishauser Adolphe Merkle Institute, University of Fribourg, CH
09:50 - 10:20	Pro Con Debate “ <i>In vitro assays will eventually replace all academic and industrial in vivo (animal) tests for drug development</i> ”	Pro: Ivan Martin , University of Basel, CH Con: David Grainger , The University of Utah, US		Markus Rimann , ZHAW, TEDD-Network, CH
10:20 - 10:50	<i>Break</i>			
Tissue engineering and biomaterials				
10:50 - 11:30	Lecture 2 <i>In vitro biomimetic neuronal interfaces</i>	Francesca Santoro , RWTH Aachen and Forschungszentrum Juelich, DE	<i>Nano and Microstructures, Neuron-chip Coupling, imaging of Interfaces, Electron Microscopy, Dynamic Biomaterials</i>	Janos Vörös , Dep. of Inform. Technol. Electrical Eng., ETH Zurich, CH
11:30 - 12:10	Lecture 3 <i>Synthetic Hydrogels for Regenerative Medicine</i>	Andrés Garcia , School of Mechanical Engineering, Georgia Tech, US	<i>Biomaterials, Cells, Organoids, Tissue Repair, Immunity</i>	Olivier Frey , Head of Technologies & Platforms and Project Manager of Microphysiological Systems, InSphero, Zurich, CH
12:10 - 13:40	Lunch and More – Ask Anything	H. Michelle Grandin , Scientific Consultant BioMaterials & Medical Devices, Instructor at UCSD Extension, US	Two senior, experienced persons at each table with (young) participants to ask any	Sufficient number of experienced persons.

		Sally McArthur* , Faculty of Science, Engineering & Technology, Swinburne University of Technology, Melbourne, AU	question (e.g., related to career planning, publication, collaborations, funding, life/work balance, etc.)	
Characterisation in 3D and organoid technology				
13:40 - 14:20	Lecture 4 Title	Sally McArthur , Faculty of Science, Engineering & Technology, Swinburne University of Technology, Melbourne, AU	XXXXXXXXXXXXXXXXXX	David Grainger , The University of Utah, US
14:20 - 14:50	Round table “How will organoid technology shape our societal future”	Sally McArthur, Adrian Roth, Janos Vörös, Catarina Brito		Falko Schlottig , FHNW, Basel, CH
14:50 - 15:20	<i>Break</i>			
Cell analysis and development of standard protocols				
15:20 - 16:00	Lecture 5 <i>Development of Standard Operating Protocols (SOPs) for Pre-Validation of in vitro Assays</i>	Barbara Rothen-Rutishauser , Adolphe Merkle Institute, University of Fribourg, CH	<i>In Vitro Testing, Standard Operating Protocols, Pre-Validation</i>	Cornelia Kasper , BOKU, Department for Biotechnology, University of Natural Resources and Life Sciences, Vienna (BOKU), AU
16:00 - 16:40	Lecture 6 <i>Comparable in vitro measurements</i>	Matthias Rösslein , EMPA St Gallen, CH	<i>Nano Technology, In Vitro Testing, Analytical Chemistry, Next Generation Sequencing</i>	Núria Montserrat Pulido , Institute for Bioengineering of Catalonia, Barcelona, SP
16:40 - 17:40	Lost in Translation: <i>Hurdles and opportunities in the translation of scientific discovery to clinics and market - including a pitch development workshop</i>	Eliav Haskal , Innovation Manager, NCCR Bio-Inspired Materials, University of Fribourg, Fribourg, CH Sally McArthur* , Faculty of Science, Engineering & Technology, Swinburne University of Technology, Melbourne, AU	<i>Short talks by Eliav and Sally. Instant feedback provided for attendees wishing to rapidly pitch ideas.</i>	--
	WrapUp	Barbara Rothen-Rutishauser , Adolphe Merkle Institute, University of Fribourg, CH Markus Rimann , ZHAW, TEDD-Network, CH		--