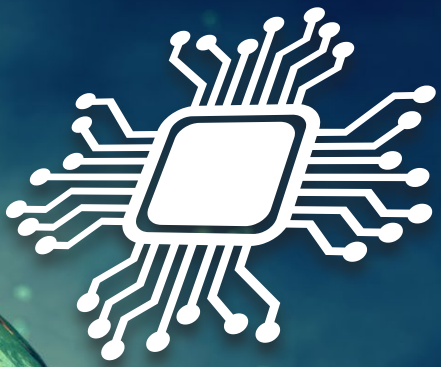
csem

FACING THE CHALLENGES OF OUR TIME

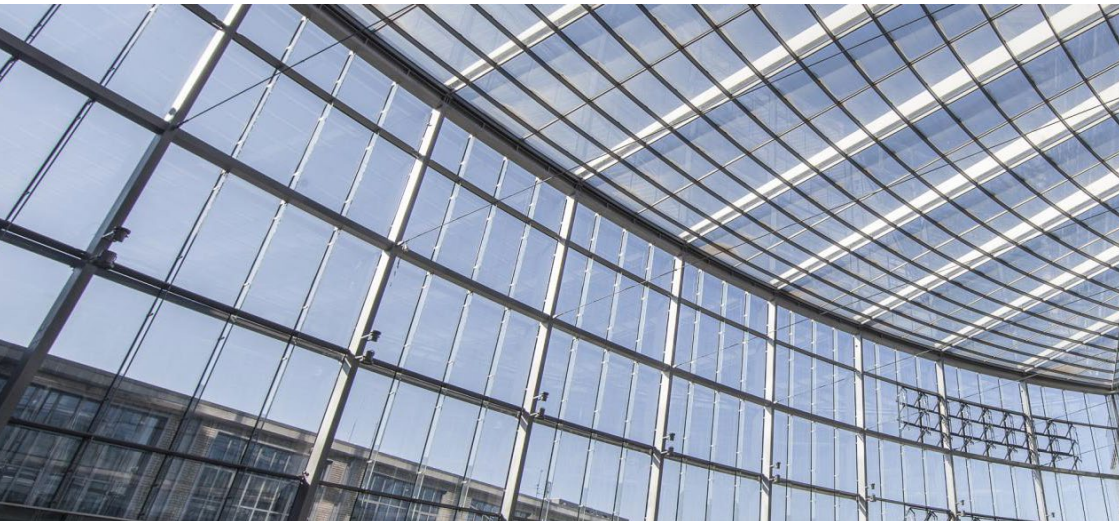


2ND NEXT GEN ORGAN-ON-CHIP & ORGANOIDS

23 -24 Aug 2022

info@csem.ch
www.csem.ch

Welcome on the Campus Biotech!



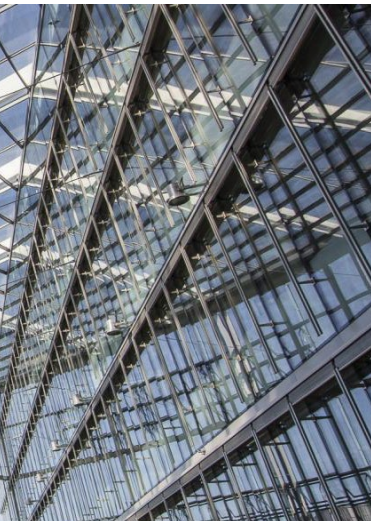
Dear participants,

We are excited to welcome you for the 2nd edition of the Next Gen Organ-on-Chip & Organoids Workshop at the Campus Biotech – a special location with a beating heart for #biotech in the Swiss French part of Switzerland.

Driven by the microphysiological system and complex in vitro model industries, this workshop aims at having both emerging technologies and large companies under the same roof. The presence of a few top-notch academics provides a flavor of the upcoming technology transfers of our applied research. The Next Gen Organ-on-Chip & Organoids is a unique event about industrialization on innovative solutions from applied research to products.

In the last years, 3D cell-based technologies have continued to attract growing interests for applications in drug discovery and development, diagnostics, consumer safety and future regenerative therapies. The number of start-ups in this field testify of the vivid ecosystem and the strong innovation potential. While the interest of life science corporates grows, finding the right application or scientific question remains a challenge for emerging technologies and vice versa.

With its high concentration of life sciences corporates, research institutes and technology organizations, and its dynamic start-up science, Switzerland has a unique opportunity and a natural role to plan in the adoption of organ-on-chip and organoid technologies.



The Next Gen Organ-on-Chip & Organoids aims at being the place where life science companies, start-ups and research organizations from all over the world meet to facilitate and accelerate the translation of new technologies. The Scientific Committee has put together an exciting two-day program with two keynote lectures from Don Ingber of Wyss Boston and Matthias Lutolf of Roche Institute of Translation Bioengineering as well as two invited presentations and 27 innovation pitches.

Take advantage of the breaks and aperitif to visit the rich exhibition with representants from more than 20 organizations or explore the CSEM showroom! The days will go fast and we hope that you will enjoy the networking with colleagues and peers.

Sincerely yours,

CSEM Organization Team

Scientific Committee

Györvary Erika, CSEM - Laabs Tracy, Wyss Center Geneva - Mastrangeli Massimo, TU Delft - Paoletti Samantha, CSEM - Revol Vincent, CSEM - Roth Adrian, Roche - Weder Gilles, CSEM

Program highlights

Tuesday 23, August 2022

9:30 Registration

OPENING SESSION

GUEST SPEAKER
Matthias Mueller
Associate Director
Chemical Biology and Therapeutics, Novartis

GUEST SPEAKER
Ronald Dekker
Senior Research Scientist
Philips MEMS & Micro devices & Delft University of Technology

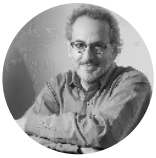
CELLS & ORGANOID HANDLING SESSION | SPONSORED BY MAXWELL BIOSYSTEMS

Lunch

EMERGING TECHNOLOGIES SESSION | SPONSORED BY INSPHERO

BRAIN SESSION | SPONSORED BY 3BRAIN

KEYNOTE LECTURE | SPONSORED BY NOVARTIS



KEYNOTE SPEAKER
Don Ingber
Founding Director
Wyss Institute for Biologically Inspired Engineering at Harvard University

17:30 **Apero Riche**

19:00 **End of the first day**

Wednesday 24, August 2022

8:30 Second day start

APPLICATION SESSION | SPONSORED BY BIOTECHNET

UPSCALING & STANDARDIZATION SESSION | SPONSORED BY FLUIGENT

Lunch

IGNITE PRIZE AWARDED BY ROCHE ITB

KEYNOTE LECTURE | SPONSORED BY EPITHELIX

KEYNOTE SPEAKER
Matthias Lutolf
Full Prof.
Institute of Bioengineering, EPFL and Scientific Director, Roche Institute for Translational Bioengineering (ITB)

LIVER SESSION | SPONSORED BY USHIO

15:20 **Closing words**

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biotechnet switzerland

3Brain

USHIO

EPITHELIX

maxwell BIOSYSTEMS

FLUIGENT SMART MICROFLUIDICS

Ignite Prize

Together with our diamond sponsor, we decided to create the Ignite Prize to recognize and support the most innovative ideas.

All participants of the workshop have been invited to submit their challenges. The scientific committee will select two winners – one coming from academia and one coming from industry. The winners will win an innovation booster with CSEM experts to evaluate, challenge and mature their innovation ideas.

We would like to take the opportunity to thank our diamond sponsor Roche Institute of Translational Bioengineering for their support.

Roche Institute for TRANSLATIONAL BIOENGINEERING | Roche

Program day 1

9:30 **Welcome & registration**

OPENING SESSION | CHAIRMAN: HELMUT KNAPP

10:00 ***Welcome to the 2nd workshop on Next Gen Organ-On-Chip & Organoids***
Alexandre Pauchard, CEO, CSEM

10:10

GUEST SPEAKER

Matthias Mueller
Associate Director
Chemical Biology and Therapeutics, Novartis

Multicellular systems for drug discovery

Matthias Müller, PhD, is working at the Novartis Institutes for BioMedical Research (NIBR) in Basel since 1999. His team combines iPS/stem cell technology with tissue engineering to create more relevant models for drug screening using HTS automation. Currently, the focus is on 3D cell cultures, organoid and microphysiological systems.

10:35

GUEST SPEAKER

Ronald Dekker
Senior Research Scientist
Philips MEMS & Micro devices & Delft University of Technology

Organ-on-Chip, and lessons learned from the semiconductor industry

Ronald Dekker joined Philips Research in 1988 where he worked on the development of IC technologies. Since 2000 his focus shifted to the integration of complex electronic sensor functionality on the tip of smart catheters. In 2007 he was appointed part time professor at the Technical University of Delft with a focus on Organ-on-Chip and bioelectronics medicines. Since 2013 he has been the initiator of a number of large European initiatives that all have in common the development of open technology platforms for electronic medical devices.

Program day 1

CELLS & ORGANOID HANDLING SESSION | SPONSORED BY MAXWELL BIOSYSTEMS

11:00 ***Session opening***
Felix Kurth, Group Leader - Biosystems Engineering, CSEM

11:05 ***Standardized and automated organoid workflows from production to end-point analysis***
Stéphanie Boder-Pasche, Project Manager, CSEM

11:20 ***Opening new perspectives with 3D Bioprinting***
Mauro Petretta, Senior Scientific Advisor, RegenHU

11:35 ***The Future Of Bio-Design: Sound Induced Morphogenesis***
Marc Thurner & Tiziano Serra, CEO & CSO, mimiX biotherapeutics

11:50 ***Resistive pulse sensing, a solution for organoids dispensing***
David Bonzon, CTO, SEED Biosciences

12:05 ***Opening of the exhibition***
Samantha Paoletti, Gilles Weder & Vincent Revol, Research & Business Development Life Science Technologies, CSEM

12:20 **Lunch**

EMERGING TECHNOLOGIES SESSION | SPONSORED BY INSPHERO

13:40 ***Session opening***
Massimo Mastrangeli, Assistant Professor, Department of Microelectronics, Delft University of Technology

13:45 ***Organ-on-Chip Open Technology Platforms***
Andries van der Meer, Associate Professor, University of Twente

14:00 ***Beating organs-on-chip for human organs and diseases modelling: advanced preclinical tools for screening drugs and medical devices***
Paola Occhetta, CEO, BiomimiX

14:15 ***The motility trap assay: new approach for nematode-on-chip technology***
Lucien Rüfener, CEO, INVENesis

14:30 ***Physical cytometry of 3D tumor spheroids: Evaluation in LoVo spheroids treated with crizotinib***
Domenico Andrea Cristaldi, R&D and Marketing Specialist, CellDynamics

14:45 ***3D CoSeedis ™—In chip assays - revolutionizing predictiveness of preclinical testing***
Marco Leu, COO, abc biopply

15:00 **Coffee**

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BIOSYSTEMS

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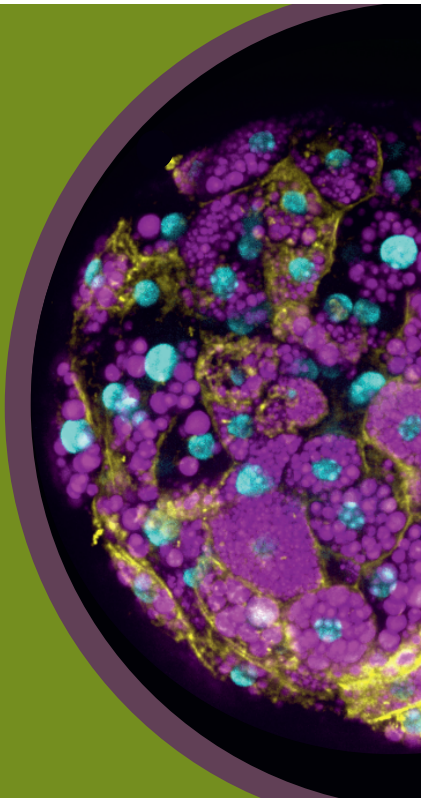
Scalable **Organ** Models
Made for **Industry**



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Program day 1

BRAIN SESSION | SPONSORED BY 3BRAIN

15:40 *Session opening*
Richie Kohman, Chief Scientific Officer, Wyss Center for Bio and Neuroengineering

15:45 *Human brain-on-a chip: an in vitro platform for drug discovery and toxicity screening*
Adrien Roux, Associate Professor, Tissue Engineering Laboratory, HEPIA Institut des Sciences et Technologies Industrielles (inSTI)

16:00 *New approaches to functionally record activity from organoids through MEA approaches*
Christoph Stangl, Senior Product Manager Ephys, MultiChannelSystems

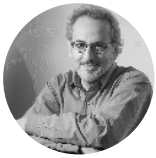
16:15 *Multiple facets of cerebral organoids: a tool for scientific research and drug testing*
Nikolay Zhukovsky, CEO, Neurix

16:30 *Organs on chip for neuroscience and building blocks for multi-organs systems*
Dr Thibault Honegger, CEO & Co-founder, Netri

KEYNOTE LECTURE | SPONSORED BY NOVARTIS

16:45 *Session opening*
Thomas Valentin, Group Leader - Automated Sample Handling, CSEM

16:50



KEYNOTE SPEAKER
Don Ingber
Founding Director
Wyss Institute for Biologically Inspired Engineering at Harvard University

Human Organ Chips: Clinical Mimicry in Preclinical Models

Donald E. Ingber,MD,PhD is a pioneer in the field of biologically inspired engineering, and at the Wyss Institute, he currently leads scientific and engineering teams that cross a broad range of disciplines to develop breakthrough bioinspired technologies to advance healthcare and to improve sustainability. His work has led to major advances in mechanobiology, tumor angiogenesis, tissue engineering, systems biology, nanobiotechnology, and translational medicine, with his most recent pioneering contributions being the development of human Organ-on-Chips as replacements for animal testing and multiplexed electrochemical sensors for medical diagnostics.

Through his work, Ingber has helped to break down boundaries between science, art and design, and has made great strides in translating his innovations into commercial products with many now either in clinical trials or currently being sold.

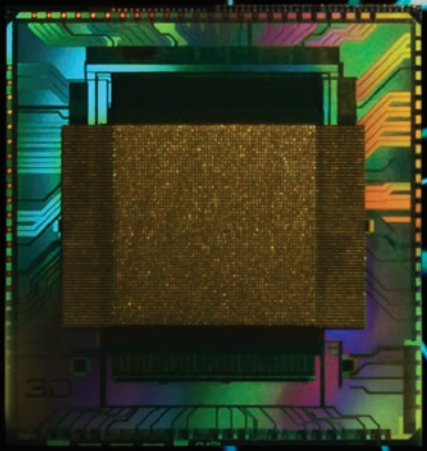
17:30 **Apero Riche**

19:00 **End of the first day**

3Brain

A cell-electronic interface for deep access of organoids and tissues

First-in-class 3D-CMOS chip for biomarker discovery, phenotypic screening and cellular assays.



Measurement Microfluidics

Integrated supremacy

Retain tissue integrity

3brain.com

Welcome to the future of medicine

NOVARTIS | Reimagining Medicine

Program day 2

8:30 *Welcome to Biotech Campus*
Benoît Dubuis, Director, Campus Biotech

APPLICATION SESSION | SPONSORED BY BIOTECHNET

8:45 *Session opening*
Adrian Roth, Principal Scientific Director Personalized Health Care (PHC) Safety, Roche

8:50 *Application of microphysiological systems and organoids for safety assessment: progress and challenges*
Kainat Khan, Senior Scientist, Astra Zeneca

9:05 *Philip Morris' Applications and Perspecitives on Organs on a Chip & Microphysiological Systems*
Kasper Renggli, Senior Scientist, PMI

9:20 *ATMP/Biologics: how to Develop a Moving Target?*
Vincent Ronfard, CSO, CUTISS

9:35 *Organs-on-Chip of the Lung Parenchyma*
Oliver Guenat, Head Organs-on-Chip Technologies, Artorg Center, University of Bern

9:50 **Coffee**

UPSCALING & STANDARDIZATION SESSION | SPONSORED BY FLUIGENT

10:35 *Session opening*
Sarah Heub, Expert - Cell Microtechnologies, CSEM

10:40 *The role of standards in establishing the scientific credibility and regulatory relevance of organ-on-chip*
Evangelos DASKALOPOULOS, Technical / Scientific Officer, European Commission, Joint Research Centre (JRC), Ispra, Italy

10:55 *Organ-on-a-Chip: on the path to the Promised Land*
Claudia Gärtner, CEO, microfluidic ChipShop

11:10 *Principles of in vitro nutrition for cell therapists*
Ferruccio Messi, President & founder, Cell Culture Technologies

11:25 *Automated microphysiological platform to sustain and analyze any organ-on-chip models*
Arnaud Cartier, Marketing Director, Fluigent

11:40 **Lunch**

13:00 **IGNITE PRIZE AWARDED BY ROCHE ITB**

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Program day 2

13:15 *Session opening*
Erika Györvary, European Affairs, CSEM

13:20 KEYNOTE SPEAKER

Matthias Lutolf
Full Prof.
Institute of Bioengineering, EPFL and
Scientific Director, Roche Institute for
Translational Bioengineering (ITB)

Engineering organoids-on-a-chip

Matthias Lutolf is director of the newly founded Roche Institute for Translational Bioengineering (ITB). The ITB was established to harness and advance the use of human model systems in drug discovery and development and personalized medicine. Working closely with academia and Roche's Pharmaceutical Research and Early Development (pRED), the ITB is uniquely positioned to harness the transformative potential of organoids for the benefit of patients. Lutolf is also Professor of Bioengineering at EPFL. His highly innovative and interdisciplinary research focuses on the development of advanced bioengineering strategies to produce next-generation organoids with improved reproducibility and physiological relevance for basic research and real-world applications in drug discovery and precision medicine. With his team, he pioneered several state-of-the-art organoid technology platforms, including shape-guided organoid development, organoids-on-a-chip, and organoid bioprinting.

LIVER SESSION | SPONSORED BY USHIO

14:00 *Session opening*
Siegfried Graf, Expert - Automated Sample Handling, CSEM

14:05 *Mimicking liver fibrosis in a microfluidics system*
Laura Suter-Dick, Cell biology and in vitro Toxicology, School of Life Sciences (FHNW)

14:20 *Why microtissue spheroid became a centerpiece in scalable organ-on-chip technologies*
Olivier Frey, Head of Technologies & Platforms, Insphero

14:30 *Advanced organoid models in precision health*
Nathalie Brandenberg, co-CEO & Founder, SUN Bioscience

14:45 *Enabling Unlimited Cell Therapies*
Patrick Kugelmeier, Director of Science, Kugelmeiers

15:05 *Closing words*
Organization committee: Erika Gyorväry, Gilles Weder, Samantha Paoletti, Christoph Joder, Vincent Revol

15:20 **End of the program**

You are looking for a human lung model...

...for your *in vitro* testing, that is easy and ready-to-use, already fully differentiated and functional, at the air liquid interface and solely made of low passage primary cells, which have up to a year shelf life and is available from different pathologies and anatomical regions, including a brand new Alveolar model? Contact Epithelix! Stay focused, here is some more. Do you want us to subcontract the test of your inhaled antiviral therapy against SARS-CoV-2 or your antibiotic against *Pa*, to assess the potential toxic effect of a compound in the bronchi, to study the mucolytic or barrier effect of your nasal spray or to make a breakthrough in a novel CF therapy? Contact Epithelix! Or come visit our lab, we have nice coffee, chocolate and beers as well. Cheers.

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USHIO *Applying Light to Life*

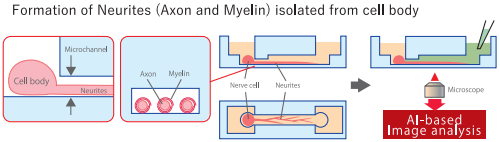
TOHOKU INSTITUTE OF TECHNOLOGY × USHIO

Nerve MPS Plate／AI Analysis

Making Neurotoxicity Evaluation Simpler and More Accurate

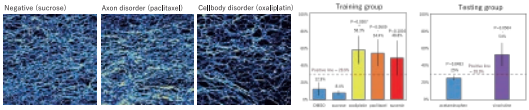
Feature of the Microphysiological system (MPS)

Formation of Neurites (Axon and Myelin) isolated from cell body



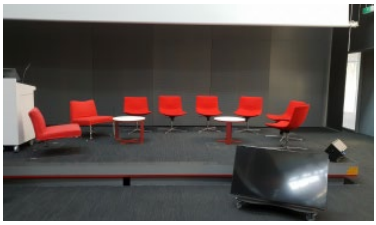
Peripheral neurotoxicity evaluation based on AI imaging analysis

Our AI system predicts neurotoxity by reading the shape changes of neurites.



Ushio Inc.
Organs on Chip Project

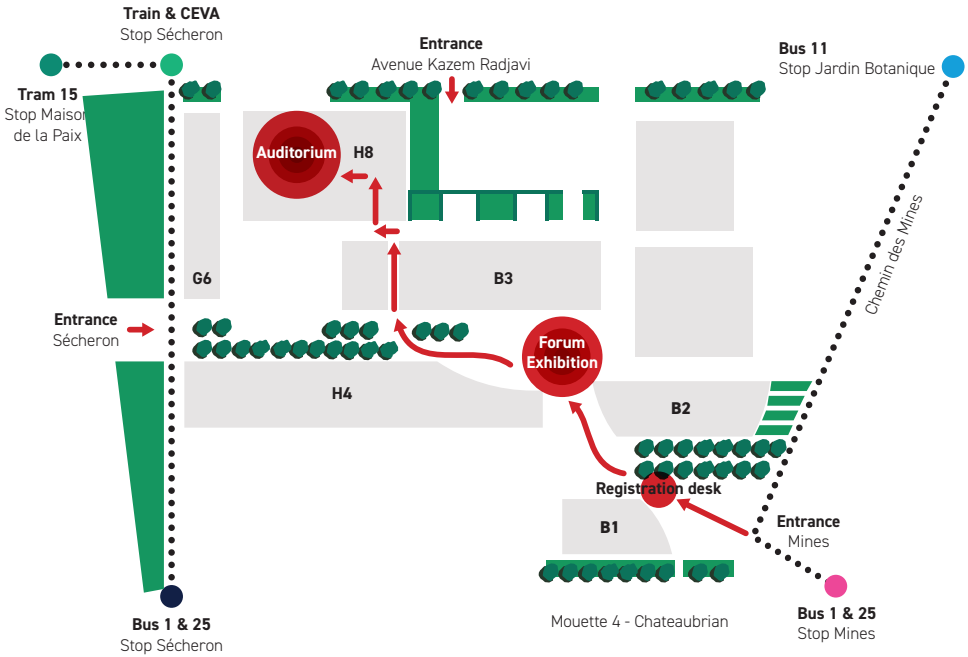
Contact : bioplate@ushio.co.jp
Website : https://www.ushio.co.jp/en/feature/organs-on-chip/



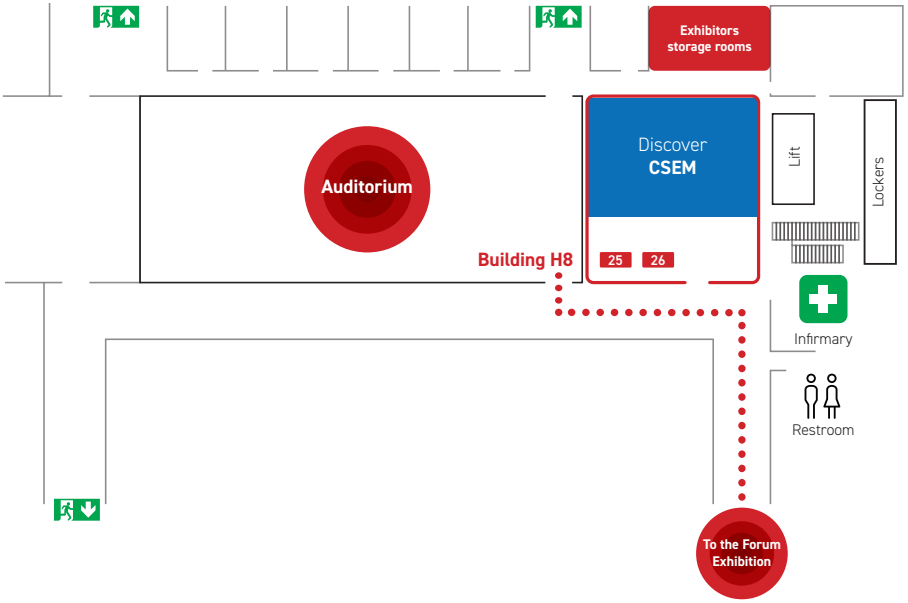
Venue

Campus Biotech, Chemin des Mines 9, 1202 Genève, Switzerland. Scan QR code for directions.

Map

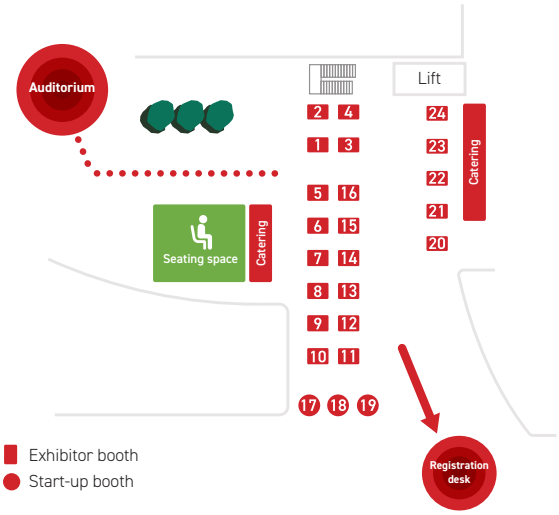


Auditorium plan



Forum exhibition plan

Location	Booth #	Company
Forum	1	SuSoS
Forum	2	Readily3D
Forum	3	Microfluidic ChipShop
Forum	4	BiomimX
Forum	5	3Brain
Forum	6	ComSol
Forum	7	ElveSys
Forum	8	Jobst Technologies
Forum	9	Optics11Life
Forum	10	Stemcell Technologies
Forum	11	RegenHU
Forum	12	MultiChannel Systems
Forum	13	AlveoliX
Forum	14	Cytosmart
Forum	15	Netri
Forum	16	Epithelix
Forum	17	FluoSphera
Forum	18	Mimix Therapeutics
Forum	19	BIOND
Forum	20	CSEM
Forum	21	InSphero
Forum	22	Ushio
Forum	23	Fluigent
Forum	24	Maxwell Biosystems
Auditorium	25	BioAlps
Auditorium	26	Biotechnet



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