



Biointerfaces International Zurich 2022, a conference on science, technology and translation

## Biointerfaces International Conference (BIC) 2022 Zurich / September 13 – 15, 2022: Science Session Program

Tuesday, September 13

### Conference Day 1 / ETH HG, F30 Audimax

08:00 –  
09:00 **Registration** / ETH HG, Entrance Hall

09:00 – Welcome Address [Viola Vogel](#), ETH Zurich, CH  
09:30 [Katharina Maniura](#), Empa Biointerfaces, CH / [Markus Rimann](#), ZHAW/TEDD, CH

### Session 1: 3D Cell and Matrix/Bioprinting / ETH HG, F30 Audimax

Chairs: [Viola Vogel](#), ETH Zurich, CH / [Markus Rottmar](#), Empa, CH

09:30 – Keynote 1 [Marcy Zenobi-Wong](#), ETH Zurich, CH  
10:10 *Breaking it Down: Architecting Tissues by Deconstructing Hydrogels*

10:10 –  
10:40 **Coffee/Tea Break** / ETH HG, Foyer Audimax

10:40 – Invited Talk [Mark Tibbitt](#), ETH Zürich, CH  
11:10 *Dynamic Biomaterials in Tissue Engineering and Repair*

11:10 – Contributed Talk [Elena Cambria](#), Massachusetts Institute of Technology, US  
11:30 *Influence of Extracellular Matrix Stiffness on Tumor Cell Extravasation via Cell Mechanical Memory*

11:30 – Contributed Talk [Paula de Dios](#), Aarhus University, DK  
11:50 *Floating Paper Chips for In Vitro Models*

11:50 –  
13:20 **Lunch & Poster Session & Exhibition** / ETH HG, Main Hall and Foyer

Tuesday, September 13

**Conference Day 1 / ETH HG, F30 Audimax**

**Session 2: Stem Cell Technology & Regenerative Medicine / ETH HG, F30 Audimax**

Chairs: [Susan Gibbs](#), Amsterdam University Medical Center, NL / [Elena Cambria](#), MIT, US

13:20 – 14:00	Keynote 2	<a href="#">Andres Garcia</a> , Georgia Tech, US <i>Bioengineered Hydrogels for Regenerative Medicine</i>
14:00 – 14:30	Invited Talk	<a href="#">David Grainger</a> , Utah University, US <i>Human Stem Cell Sheets for Regenerative Medicine Applications</i>
14:30 – 14:50	Contributed Talk	<a href="#">Anna Puiggali-Jou</a> , ETH Zurich, CH <i>Sulfated Micro-Islands in Granular Hydrogels Promote Endogenous Cartilage Repair</i>
14:50 – 15:20	Technology Pitches by Exhibitors	1) Bruker, 2) Cytosurge, 3) Biotechnet, 4) Readily 3D, 5) STEMCELL Technologies, 6) Zurich Instruments
15:20 – 15:50	<b>Coffee/Tea Break / ETH HG, Foyer Audimax</b>	

**Session 3: Functional Material-Biology Interfaces (to Tissue, Cells, Bacteria, Enzymes/Protein) / ETH HG, F30 Audimax**

Chairs: [Li Tang](#), EPFL, CH / [Yashoda Chandorkar](#), Empa, CH

15:50 – 16:30	Keynote 3	<a href="#">Martina Stenzel</a> , UNSW, AUS <i>Nanoparticles for Drug Delivery - the Correlation Between the Physics of the Nanoparticles and their Interaction with the Biological Media</i>
16:30 – 17:00	Invited Talk	<a href="#">Francesca Santoro</a> , Istituto Italiano di Tecnologia, IT <i>Out of Plane Materials for Bioelectronic Interfaces</i>
17:00 – 17:30	Invited Talk	<a href="#">Claire Wilhelm</a> , Institut Curie, F <i>Magnetic Spheroids and Tissue Engineering</i>
17:30 – 17:50	Contributed Talk	<a href="#">Samuel Watts</a> , University of Fribourg, CH <i>Antimicrobial Cationic Coating for Rapid Self-Disinfecting Surfaces</i>

Wednesday, September 14

**Conference Day 2 / TEDD Annual Meeting / ETH HG, F30 Audimax**

08:00 –  
08:30 **Registration** / [ETH HG, Entrance Hall](#)

08:30 –  
08:45 TEDD Welcome [Markus Rimann](#), Head of TEDD, ICBT, Zurich University of Applied Sciences

08:45 –  
09:30 Keynote 4 [Thomas Hartung](#), Johns Hopkins Bloomberg School of Public Health, US  
*21<sup>st</sup> Century Cell Culture for 21<sup>st</sup> Century Research*

Chairs: [Markus Rimann](#), ZHAW/TEDD, CH / [Dilara Perver](#), ETH Zurich, CH

09:30 –  
10:00 Invited Talk [Ivan Martin](#), University of Basel, CH  
*Regenerative Engineering: Designing Grafts, Processes and Signals*

10:00 –  
10:30 Invited Talk [Susan Gibbs](#), Amsterdam University Medical Center, NL  
*Modeling Immune Mediated Skin Disease-on-Chip*

10:30 –  
11:00 **Coffee/Tea Break** / [ETH HG, Foyer Audimax](#)

Chairs: [Jens Kelm](#), PreComb Therapeutics, CH / [Simon Pot](#), VetSuisse University of Zurich, CH

11:00 –  
11:30 Invited Talk [Stephanie Boder-Pasche](#), CSEM, CH  
*Standardized Tools for Organoid-on-Plate*

11:30 –  
12:00 Invited Talk [Tina Bürki](#), Empa, CH  
*Unraveling Mechanisms of Developmental Toxicity from Nanomaterials*

12:00 –  
12:30 Technology Pitches by Exhibitors 1) AlveoliX, 2) CELLnTEC Advanced Cell Systems, 3) Celvivo, 4) InSphero, 5) Maxwell Biosystems, 6) UPM

12:30 –  
14:00 **Lunch & Poster Session & Exhibition** / [ETH HG, Main Hall and Foyer](#)

## Wednesday, September 14

**Conference Day 2 / TEDD Annual Meeting / ETH HG, F30 Audimax**

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Chairs: [Mark Tibbitt](#), ETH Zurich, CH / [Anna Puiggali-Jou](#), ETH Zurich CH

14:00 – 14:45	Keynote 5	<a href="#">Stefan Platz</a> , AstraZeneca, UK <i>Advanced Cellular Models and their Future Applications</i>
14:45 – 15:15	Invited Talk	<a href="#">Chantal Pauli</a> , University Hospital Zurich, CH <i>Patient Derived Ex Vivo Modeling in a Hospital Setting</i>
15:15 – 15:35	Invited Talk	<a href="#">Jens Kelm</a> , PreComb Therapeutics, CH <i>Bringing Functional Precision Medicine to Clinical Practice</i>
15:35 – 16:05	<b>Coffee/Tea Break / ETH HG, Foyer Audimax</b>	

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Chairs: [Markus Rimann](#), ZHAW/TEDD, CH / [Dilara Perver](#), ETH Zurich, CH

16:05 – 16:35	Invited Talk	<a href="#">Tiziano Serra</a> , AO Foundation, CH <i>Controlling Morphogenesis by Sound</i>
16:35 – 17:05	Invited Talk	<a href="#">Catarina Brito</a> , iBET & ITQB-NOVA, PT <i>3D Culture Strategies to Address Cell Microenvironment Remodeling in Disease and Therapeutic Response</i>
17:05 – 17:25	Contributed Talk	<a href="#">Rupert Ecker</a> , TissueGnostics, AUS <i>Contextual Tissue Cytometry Using Precision Microscopy with Artificial Intelligence</i>
19:00 – 23:00	<b>Conference Dinner / Restaurant “Die Waid”, Zurich</b>	

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**Conference Day 3 / ETH HG, F30 Audimax**

08:00 –  
08:30 **Registration / ETH HG, Entrance Hall**

**Session 4: Microphysiological Systems (MPS) / ETH HG, F30 Audimax**

Chairs: [Katharina Maniura](#), Empa, CH / [Paula de Dios](#), Aarhus University, DK

08:30 –  
09:10 Keynote 6 [Adrian Roth](#), Hoffmann-La Roche Ltd., CH  
*Human Tissue Models Supporting Clinical Development and Personalized Medicine*

09:10 –  
09:40 Invited Talk [Sally McArthur](#), Deakin University, AUS  
*Imaging and Characterisation Challenges of 3D Cell Culture Systems*

09:40 –  
10:00 Contributed Talk [Dilara Perver](#), ETH Zurich, CH  
*Bone Marrow on-a-Chip to Assess Disease-Associated Alterations in Extracellular Matrix Fiber Tension*

10:00 –  
10:30 **Coffee/Tea Break / ETH HG, Foyer Audimax**

**Session 5: Spheroids, Organoids & de Novo Tissues / ETH HG, F30 Audimax**

Chairs: [Martina Stenzel](#), UNSW, AUS / [Tina Bürki](#), Empa, CH

10:30 –  
11:10 Keynote 7 [Nuria Montserrat](#), Institute of Bioengineering of Catalonia, ES  
*How to Engineer Human Pluripotent Stem Cells to Understand Development and Disease*

11:10 –  
11:40 Invited Talk [Simon Pot](#), VetSuisse University of Zurich, CH  
*Corneal Wound Healing: How Myofibroblasts Might Cause their own Demise*

11:40 –  
12:00 Contributed Talk [Fabrizio Pennacchio](#), IFOM ETS, IT / ETH Zurich, CH  
*N2FXM: Imaging-Based Technique for the Real-Time Measurement of Nuclear and Cytoplasmic Volumes in Mammalian Cells*

12:00 –  
13:20 **Lunch & Poster Session & Exhibition / ETH HG, Main Hall and Foyer**

13:20 –  
13:40 **Poster Prizes Announcement / ETH HG, F30 Audimax**

Thursday, September 15

**Session 6: Bioanalytics and Functional Material-Biology Interfaces / ETH HG, F30 Audimax**

Chairs: [David Grainger](#), The University of Utah, US / [Samuel Watts](#), University of Fribourg, CH

13:40 – Invited Talk [Li Tang](#), EPFL, CH  
14:10 *Multidimensional Immunoengineering Approaches to Enhanced Cancer Immunotherapy*

14:10 – Invited Talk [Nako Nakatsuka](#), ETH Zurich, CH  
14:40 *Interfacing Nanoscale Neurochemical Sensors with Neurons and Brain Tissue*

14:40 – Contributed Talk [Ekaterina Umnyakova](#), University of Basel, CH  
15:00 *Using Factor H-Binding Peptides for the Protection of Biosurfaces*

15:00 – **Coffee/Tea Break /** ETH HG, Foyer Audimax  
15:30

**Session 7: 3D Cell & Matrix Bioprinting, Tissue Engineering / ETH HG, F30 Audimax**

Chairs: [Marcy Zenobi-Wong](#), ETH Zurich, CH / [Ke Yang](#), Empa, CH

15:30 – Invited Talk [Oya Tagit](#), University of Applied Sciences and Arts Northwestern Switzerland, CH  
16:00 *Immunomodulating Nanomedicines: From Bench to the Bedside*

16:00 – Invited Talk [Martin Ehrbar](#), University Hospital Zurich, CH  
16:30 *Engineered Hydrogels for Bone Organoid Formation*

16:30 – Keynote 8 [Tatiana Segura](#), Duke University, US  
17:10 *Engineering #InjectablePorosity for Brain and Skin Repair*

17:10 – Closing remarks  
17:20

**End of Conference**