

Biointerfaces International 2018 Zurich / August 14 – 16, 2018: Science Session Program 14, 15A, 16
Separate Session Program 15B = Translational Sessions

Tuesday, August 14

Conference Day 1 / KOH-B-10, floor B

08:00 – **Registration** (University of Zurich, Entrance Hall)
 09:00

09:00 – Welcome Address **Michael Hengartner**, President University of Zurich
 09:30 **Nicholas D. Spencer**, ETH Zurich
Katharina Maniura / Jörg Güttinger, Empa Biointerfaces / Ass. NTN Innovative Surfaces

Session 1: Regenerative Medicine & Stem Cell Technology (A) / KOH-B-10, floor B

09:30 – Keynote 1 **Molly Shoichet**, University of Toronto, Toronto, CA
 10:10 *Affinity release strategies for the delivery of therapeutic proteins to the central nervous system*

10:10 – **Coffee/Tea Break** / Lichthof, floor D
 10:40

10:40 – Invited Talk 1 **Georg Duda**, Charité, Berlin, DE
 11:10 *Enable regeneration – using technical interfaces*

11:10 – Contributed Talk 1 **Manfred F. Maitz**, Leibniz Institute of Polymer Research, Dresden, DE
 11:30 *Feedback controlled system for anticoagulant release with response to different coagulation factors*

11:30 – Contributed Talk 2 **Marcy Zenobi-Wong**, ETH Zurich, Zurich, CH
 11:50 *The many faces of enzymatically-crosslinked hyaluronan*

11:50 – **Lunch & Poster Session & Exhibition** / Lichthof & Foyer West, floor D
 13:20

Tuesday, August 14

Session 2: Regenerative Medicine & Stem Cell Technology (B) / KOH-B-10, floor B

13:20 – 14:00	Keynote 2	Sheila McNeil , University of Sheffield, Sheffield, UK <i>Biomaterials and regenerative medicine – from the laboratory to the clinic</i>
14:00 – 14:20	Contributed Talk 3	to be confirmed
14:20 – 14:40	Contributed Talk 4	Michelle Grandin , Alfred E. Mann Institute for Biomedical Engineering, University of Southern California, US <i>Optical coherence tomographic angiography as a diagnostic tool for diabetic retinopathy: A case study of translation</i>
14:40 – 15:00	Contributed Talk 5	Maartje C. Bastings , EPFL, Lausanne, CH <i>Programming materials with cell-adhesion sites that are functionally indistinguishable from nature</i>
15:00 – 15:30	Coffee/Tea Break / Lichthof, floor D	

Session 3: Drug-delivery systems (A) / KOH-B-10, floor B

15:30 – 16:00	Invited Talk 2	Tanja Weil , Max Planck Institute for Polymer Research, Mainz, DE <i>Advanced biohybrid materials for drug delivery and tissue regeneration</i>
16:00 – 16:30	Invited Talk 3	Stefan Salentinig , Empa, St. Gallen, CH <i>Food- and digestion-inspired drug delivery systems</i>
16:30 – 17:00	Invited Talk 4	Kazunari Akiyoshi , Kyoto University, Kyoto, JP <i>Self-assembly of glyco-based polymers for protein delivery systems</i>
17:00 – 17:20	Contributed Talk 6	Rapid fire poster presentations (3 min per Poster)
17:20 – 18:50	Poster Session & Exhibition & Apéro / Lichthof, floor D, Foyer West, floor D	

Special Session 4: Evening Talks / KOH-B-10, floor B

18:50 – 19:20	Technology Pitches by Exhibitors	
19:20 – 20:00	Keynote 3	Wendy Naimark , Interface Biologics, Toronto, CA <i>Sustained local drug delivery: key design criteria</i>
20:00	End of Session	

Wednesday, August 15

Conference Day 2 / KOH-B-10, floor B & video transmission to KOL-G-201 (Aula), floor G (for keynotes 5 and 7)

08:00 – **Registration** (University of Zurich, Entrance Hall)
08:30

08:30 – Keynote 5 **Matthias Lutolf**, EPFL, Lausanne, CH
09:10 *Organoid development by design*

Session 5: Functional Material-Tissue Interfaces / KOH-B-10, floor B

09:10 – Invited Talk 5 **Catherine Picart**, Grenoble Institute of Technology, Grenoble, FR
09:40 *Bioactive surfaces for tissue regeneration*

09:40 – Invited Talk 6 **Laura De Laporte**, Leibniz Institute for Interactive Materials, Aachen, DE
10:10 *Low invasive anisotropic materials for tissue regeneration*

10:10 – **Coffee/Tea Break / Lichthof, floor D**
10:40

10:40 – Invited Talk 7 **Joachim Rädler**, Ludwig Maximilians University Munich, Munich, DE
11:10 *Single cell time-lapse imaging on micro-arrays - gene expression kinetics and signaling pathways*

11:10 – Contributed Talk 7 **Karine Anselme**, Université de Haute-Alsace, CNRS, Mulhouse, FR
11:30 *Curvotaxis directs cell migration through cell-scale natural landscapes*

11:30 – Contributed Talk 8 **Roberto C. Andresen Eguiluz**, University of California, Santa Barbara, US
11:50 *Collagen thin film adhesion mediated by siderophore inspired molecules*

11:50 – Contributed Talk 9 **Nicholas Reynolds**, Swinburne University of Technology, Melbourne, AU
12:10 *Controlling the self-assembly of peptide based amyloid nanofibrils*

12:10 – **Lunch & Poster Session & Exhibition / Lichthof, floor D, Foyer West, floor D**
13:30

Wednesday, August 15 (Session 15A)

Session 6: Bioanalytics & Diagnostics / KOH-B-10, floor B

13:30 – 14:10	Keynote 6	Sindy KY Tang , Stanford University, Stanford, US <i>A microfluidic guillotine for single-cell wound repair studies</i>
14:10 – 14:40	Invited Talk 8	Daniel Müller , ETH Biosystems and Engineering, Basel, CH <i>Measuring the mass regulation of single mammalian cells at millisecond time resolution</i>
14:40 – 15:20	Invited Talk 9	Govind Kaigala , IBM Research, Rüschlikon, CH <i>Hydrodynamic shaping of sub-nanoliter volumes of liquids on surfaces for biopatterning and molecular analysis</i>
15:20 – 15:50	Coffee/TeaBreak / Lichthof, floor D	

Session 7: 3D Cell Culture Models/ Engineered Tissues / KOH-B-10, floor B

15:50 – 16:20	Invited Talk 10	Michaela Kneissel , Novartis, Basel, CH <i>tba</i>
16:20 – 16:40	Contributed Talk 10	Yuji Teramura , Department of Bioengineering, The University of Tokyo, Tokyo, JP <i>Protective role of PEG-phospholipid conjugate in reducing ischemic reperfusion injury in kidney transplantation</i>
16:40 – 17:00	Contributed Talk 11	Tina Buerki-Thurnherr , Empa, St. Gallen, CH <i>Nanoparticle uptake and toxicity assessment in a novel standardized human placental organoid model</i>
17:00 – 17:40	Keynote 7	David J. Mooney , Harvard University, Boston, US <i>Viscoelasticity and stem cells</i>
18:30 – 23:00	Conference Dinner (Restaurant “Die Waid”, Zurich)	

Wednesday, August 15 (Session 15B)

08:00 – **Registration** (University of Zurich, Entrance Hall)
08:30

Conference Day 2 Plenary Talk KOH-B-10, floor B, video transmission to KOL-G-201 (Aula), floor G

08:30 – Keynote 5 **Matthias Lutolf**, EPFL, Lausanne, CH
09:10 *Organoid development by design*
Intro: **Georg Duda**, Charité, Berlin, DE

Session 5B: Translational Session 1: Interfaces in the education and translation from science & technology to clinics & market: KOL-G-201 (Aula), floor G
Chair: **Alex Dommann**, Empa, CH

09:10 – Invited Translation- **Corina Schütt**, Hochschulmedizin Zurich, CH
09:30 Contribution 1 Zurich Heart

09:30 – Invited Translation- **Uwe Freudenberg**, Max Bergmann Center of Biomaterials, Dresden, DE
09:50 Contribution 2 *tbd*

09:50 – Invited Translation- **Stefan Fischer**, Euresearch, CH
10:10 Contribution 3 *tbd*

10:10 – **Coffee/Tea Break** / Lichthof, floor D
10:40

Session 5B (continued): Translational Session 1: Interfaces in the education and translation from science & technology to clinics & market: KOL-G-201 (Aula), floor G
Chairs: **Daniel Ricklin**, University Basel, CH / **Aylvin Dias**, DSM Materials Science Center BV, NL

10:40 – Invited Translation- **Martin Kayser**, Wyss Zurich, CH
11:20 Contribution 4 *The Wyss Zurich model and challenges for translational medicine*
Maximilian Emmert, Wyss Zurich Project «LifeMatrix»

11:20 – Invited Translation- **Christian C. Mathis**, SuSoS AG, Dübendorf, CH
11:35 Contribution 5 *Molecular pocket-knife for next-generation diagnostics*

11:35 – Invited Translation- **Stephan Emmerth**, Baselaunch, **Jakob Busch-Petersen**, F. Hofmann-La Roche AG, Basel, CH
12:10 Contribution 6 *BaseLaunch and the role of incubators*
Simon Ittig, T3 Pharmaceutical AG, Basel, CH
A versatile bacterial cancer therapy: from idea to company

Wednesday, August 15 (Session 15B)

12:10 – **Lunch & Poster Session & Exhibition / Lichthof, floor D, Foyer West, floor D**
13:30

Session 6B: Translational Session 2: Sources of Innovation KOL-G-201 (Aula), floor G

Chairs: **David W. Grainger**, University of Utah, USA, **Michelle Grandin**, representing AMI-USC, LA, USA

13:30 – Invited Translation- **Daniela Marino**, Wyss Zurich Project «denovoSkin», Zurich, CH
13:45 Contribution 7 *Personalized tissue therapy: challenges and opportunities*

13:45 – Invited Translation- **Daniel Delfosse**, Mathys AG Bettlach, CH
14:00 Contribution 8 *Cooperation is the key for successful innovation*

14:00 – Invited Translation- **Curzio Rüegg**, Novigenix AG, University of Fribourg, CH
14:15 Contribution 9 *Cancer diagnostics: translating an idea into a product*

14:15 – Invited Translation- **Patrick Kugelmeier**, Kugelmeiers AG, Zollikerberg, CH
14:30 Contribution 10 *How laws of nature should guide the development of 3D cell culture for regenerative medicine*

14:30 - Panel Discussion Discussion Leader: **David W. Grainger**, University of Utah, USA
15:10 *Panelists: Speakers of above*

15:20 – **Coffee/TeaBreak / Lichthof, floor D**
15:50

Wednesday, August 15 (Session 15B)

Session 7B: Translational Session 3: Crossing regulatory and institutional barriers KOL-G-201 (Aula), floor G

Chairs: **Samuele Tosatti**, SuSoS AG, CH, **Martin Schuler**, AO Foundation, CH

15:50 – 16:05	Invited Translation- Contribution 11	Peter Studer , SwissMedtech, CH <i>The new EU-regulations and their impact on startup companies</i>
16:05 – 16:20	Invited Translation- Contribution 12	Martin Schuler , AO Foundation, Dübendorf, CH <i>Surviving the new MDR</i>
16:20 – 16:25	Invited Translation- Contribution 13	Beat Lechmann , Johnson & Johnson Medical Devices, Zuchwil, CH <i>MDR/IVDR implementation: what does it mean for my company?</i>
16:25 – 16:40	Invited Translation- Contribution 14	Wendelin Stark , Hemotune AG, Zurich, CH <i>MDR what does this mean for a startup company</i>
16:40 – 16:50	Q&A	
16:50 – 17:00		<i>Short break (no servings)</i>

Conference Day 2 Plenary Talk KOH-B-10, floor B, video transmission to KOL-G-201 (Aula), floor G

17:00 – 17:40	Keynote 7	David J. Mooney , Harvard University, Cambridge, MA, USA <i>Viscoelasticity and stem cells</i> Intro: Michaela Kneissel , Novartis, Basel, CH
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18:30 – ca. **Conference Dinner** (Restaurant “Die Waid”, Zurich)
23:00

Thursday, August 16

Conference Day 3 / KOH-B-10, floor B

Session 8: Bioinspired Materials / KOH-B-10, floor B

08:30 – 09:10 Keynote 8 **Sierin Lim**, Nanyang Technological University, Singapore, SG
Protein assemblies at interfaces: fundamentals and opportunities

09:10 – 09:40 Invited Talk 11 **André Studart**, ETH Zurich, Zurich, CH
3D printing of biologically-inspired materials

09:40 – 10:00 Contributed Talk 12 **Marie Weinhart**, Freie Universität Berlin, Berlin, DE
Thermoresponsive monolayers on polystyrene substrates for tissue culture – from functional pancake to brush coatings

10:10 – 10:40 **Coffee/Tea Break** / Lichthof, floor D

Session 9: Bacteria at Interfaces / KOH-B-10, floor B

10:40 – 11:20 Keynote 9 **Erik Reimhult**, University of Natural Resources and Life Sciences, Vienna, AT
Digital phase contrast holography applied to investigating bacteria and bacteria interactions with surfaces

11:20 – 11:50 Invited Talk 12 **Joanna Aizenberg**, Harvard University, Boston, US
Designing interfaces that prevent marine fouling

11:50 – 12:10 Contributed Talk 13 *to be selected from rapid poster presentations on Aug 14*

12:10 – 13:30 **Lunch & Poster Session & Exhibition** / Lichthof, floor D, Foyer West, floor D

13:30 – 13:45 **Poster Prizes Announcement** / KOH-B-10, floor B

Thursday, August 16

13:45 – 14:15	Invited Talk 13	Kwanwoo Shin , Sogang University, Seoul, KR <i>Photosynthetic artificial organelles for regulations of ATP-dependent reactions inside liposomal minimal cell</i>
14:15 – 14:45	Invited Talk 14	Ashutosh Chilkoti , Duke University, Durham, US <i>Genetically encoded systems for drug delivery</i>
14:45 – 15:15	Invited Talk 15	Brigitte Städler , Aarhus University, DK <i>Cell mimicry based approaches in drug delivery</i>
15:15 – 15:45	Coffee/Tea Break / Lichthof, floor D)	

Session 11: Mechanobiology / KOH-B-10, floor B

15:45 – 16:15	Invited Talk 16	Viola Vogel , ETH Zurich, Zurich, CH <i>Unraveling the crosstalk between tissue tension and tissue functions</i>
16:15 – 16:45	Invited Talk 17	Manuel Salmeron-Sanchez , University of Glasgow, Glasgow, UK <i>Engineering biointerfaces for integrin-growth factor crosstalk</i>
16:45 – 17:25	Keynote 10	Claudia Fischbach , Cornell University, Ithaca, US <i>Engineering approaches to study tumor-microenvironment interactions</i> Intro: Carsten Werner, TU Dresden, DE
17:25 – 17:35	Closing	

End of Conference