

Preliminary List of Poster Contributions at the Biointerfaces *International* 2018, Zurich Conference

TOPIC 1 Regenerative Medicine & Stem Cell Technology

Titel	Presenter
<i>Integrin-Growth Factor Synergistic Microenvironments to Investigate Metabolic Mechanisms for A Bone Marrow Niche-Like Phenotype</i>	<i>Hannah Donnelly</i>
<i>Cultivation of Human Mesenchymal Stem Cells (hMSCs) on μ-Carriers</i>	<i>Christine Müller-Renno</i>
<i>An implantable PDMS tool for heightened throughput in screening hMSC differentiation potential in vivo</i>	<i>Queralt Vallmajo-Martin</i>
<i>Injectable Degradable PVA Microgels Using Microfluidics Technology for Controlled Osteogenic Differentiation of Mesenchymal Stem Cells</i>	<i>Yong Hou</i>
<i>Hybrid Laminin-based Hydrogels for efficient Presentation of growth Factors</i>	<i>Oana Dobre</i>
<i>Transdermal application of curcumin to treat bacterial infection in a 3D skin model</i>	<i>Berna Senturk</i>
<i>Engineering cell-material interaction to modulate stem cell differentiation and cell integrin spatial distribution studies</i>	<i>Lay Poh Tan</i>
<i>Multiphasic hydrogels to promote healing of chronic cutaneous wounds</i>	<i>Uwe Freudenberg</i>

TOPIC 2 (Drug) Delivery Systems

Titel	Presenter
<i>Investigation of Interaction Forces between Lipid Vesicles and Lipid Bilayers with Fluidic Force Spectroscopy</i>	<i>Ines Lüchtfeld</i>
<i>Cyclic Beta Glucan - a potential Drug Delivery System</i>	<i>Puja Kumari</i>
<i>Conjugated Polymer Systems for highly controlled Proton Delivery in antifibrosis Therapy</i>	<i>Géraldine Guex</i>
<i>Ultrasound-Induced Interactions between Bilayers and Bubbles</i>	<i>Martin Walsh</i>
<i>Nanofibrillated Cellulose - Nisin Self-assembly for the Design of Advanced Antimicrobial Materials – a SAXS Study</i>	<i>Roman Weishaupt</i>

<i>pH-responsive Lipid-Based Nanocarriers for Antimicrobial Peptides</i>	<i>Mark Gontsarik</i>
<i>Injectable Biocompatible Hydrogels from Nanocrystalline Cellulose for Controlled Release Applications</i>	<i>Pascal Bertsch</i>

TOPIC 3 Functional Material-Biology Interfaces (to Tissue, Cells, Bacteria, Enzymes/Proteins)

Titel	Presenter
<i>3D Printing of Bacteria-derived Complex Materials</i>	<i>Patrick A. Rühls</i>
<i>High-throughput combinatorial synthesis of a library of hydrogels using nanoliter compartments to optimize cell encapsulation parameters</i>	<i>Alisa Rosenfeld</i>
<i>Surface Functionalized Magnetic Fe₃O₄ Nanoparticles as a support for the Immobilization of Laccase and TEMPO Applied in Organic Synthesis</i>	<i>Mohammad Ali Faramarzi</i>
<i>Stretchable Hydrogel to Control Ligand Spacing and Regulate Cell Spreading and Migration</i>	<i>Qiang Wei</i>
<i>Miniaturized high-throughput cell screening of transfection enhancers using droplet microarrays</i>	<i>Yanxi Liu</i>
<i>Protein adsorption from a viewpoint of molecular interaction on well-defined polymer brush surfaces</i>	<i>Yuuki Inoue</i>
<i>Understanding the Multivalent Interactions of Influenza Virus at a Cell Surface</i>	<i>Daniele Di Iorio</i>
<i>Probing molecular-level Interactions of Chitosan with cell membrane Models at the air-water Interface</i>	<i>Rafael de Oliveira Pedro</i>
<i>Controlled Release Coatings for Medical Devices to Mitigate the Foreign Body Response</i>	<i>Nicholas Welch</i>
<i>Multi-scaled Hierarchical Topography of Titanium Regulated Adhesion and Multi-differentiation of Mesenchymal Stem Cells</i>	<i>Peng Chen</i>
<i>Chemically reduced graphene oxides: a tuneable tool for investigating the effect of surface hydrophobicity on the activity and selectivity of lipases</i>	<i>Tejaswini R. B. Ramakrishna</i>
<i>Laser-generated high wetting contrast surfaces for fabrication of homogenous biofilms</i>	<i>Sandra Stroj</i>
<i>Microbial Tissues: Which Physical Cues Determine Biofilm Spreading and 3D Geometry at Solid/Air Interfaces?</i>	<i>Cécile M. Bidan</i>

<i>Respective effects on CD44 and RHAMM expression of Hyaluronic Acid and Heparosan in a human skin explant model.</i>	<i>Anthony Bresin</i>
<i>Universal Polymer Coatings with Tailorable Bioinert and Biospecific Functions</i>	<i>Leixiao Yu</i>
<i>Biofilm formation and planktonic growth of S. epidermidis in the presence of phenolic compounds tannic acid and pyrogallol</i>	<i>Hanna Tiainen</i>
<i>pH dependent coating formation of tannic acid on titanium surfaces</i>	<i>Florian Weber</i>
<i>Surface characterisation of bacteria and biofilms by near-ambient pressure X-ray photoelectron spectroscopy</i>	<i>Andreas Thissen</i>
<i>Biomimetic Self-assembly of Extracellular Matrix Protein Networks</i>	<i>Agustina Setiawati</i>
<i>Extracellular Matrix-liposome Delivery System for Tissue Regeneration</i>	<i>Huong Thanh Nguyen</i>
<i>The Mechanism of action of Surface-grafted Caspofungin: Evidence from a series of Candida Albicans Mutants</i>	<i>Stephanie J. Lamont-Friedrich</i>
<i>Self-grown bacterial cellulose capsules</i>	<i>Martina Pepicelli</i>
<i>Covalent Immobilisation of Echinocandins and Polyenes as Antifungal Coatings</i>	<i>Javad Naderi</i>
<i>Combating biofilm formation by diffusive release of the antifungal drug fluconazole from heptylamine plasma polymer coating</i>	<i>Javad Naderi</i>
<i>Fabrication of porous P4HB scaffolds for treatment of hard-to-heal skin wounds</i>	<i>Eike Müller</i>
<i>Potential of Metallic Glasses for Application in Blood-Contacting Devices</i>	<i>Eike Müller</i>
<i>Nuclease-resistant DNA-mediated polymersome Clusters</i>	<i>Juan Liu</i>
<i>Plasma Surface Modifications of thin Polymer Films for influencing protein Adsorption</i>	<i>Ivana Mrcic</i>
<i>Selective Capture of Endothelial Cells by CD34 grafted onto a Low-Fouling Hyperbranched Polyglycerol Coating</i>	<i>Anouck L. S. Burzava</i>
<i>Exploring T Cell using functionalised Surfaces</i>	<i>Mirren Charnley</i>

<i>Surface coating Platform towards enhancing Osteo-Integration of 3D printed Titanium Implats</i>	<i>Mischa Mueller</i>
<i>Synovial fluid reactivity on titanium: a combined in-vivo surface chemical, electrochemical and biochemical approach</i>	<i>Anna Igual Munoz</i>
<i>Development of dextran-based hydrogel layers for label-free biosensing and cell micropatterning</i>	<i>Andras Saftics</i>
<i>Modulating the design of nanofibrous yarns for use in soft tissue repair</i>	<i>Roxanna E. Abhari</i>
<i>Understanding Nanoparticles Agglomeration in the Biological Environment</i>	<i>Neda Iranpour Anaraki</i>
<i>Soft sub-micrometer nanoassemblies and their behavior in vitro and in vivo</i>	<i>Ioana Craciun</i>
<i>assemblies for antimicrobial applications</i>	<i>Mahsa Mohammadtaheri</i>
<i>Biodegradable and antibacterial active poly(4-hydroxybutyrate) films to prevent bacterial infection</i>	<i>Claudia Fessele</i>
<i>Core-shell silver nanoparticles in endodontic disinfection solutions enable long-term antimicrobial effect</i>	<i>Qun Ren</i>
<i>Load-and-play: on-demand encapsulation of biomacromolecules by a dynamic spongy coating</i>	<i>Kefeng Ren</i>
<i>Atmospheric Pressure Plasma Jet Treatment of Polymer Surfaces for Biofunctionalisation: Paving the Way for the next Generation of Bioprinters</i>	<i>Oliver Lotz</i>
<i>Multiscale Origami Structures as Interface for Cells (MOSAIC)</i>	<i>Alessandro Angelin</i>
<i>Destruction Free Probing of Complex Biomolecular Films at Interfaces</i>	<i>Thomas Geue</i>
<i>Embedding live bacteria in hydrogel/ceramic nanocomposites by ionotropic gelation</i>	<i>Jessica Condi Mainardi</i>
<i>Sustainable Thermoregeneration of Superhydrophobic Coatings</i>	<i>Tomer Simovich</i>
<i>Synergetic Antifouling and Antimicrobial Activity by Self-Assembled Adhesive Peptide Particles</i>	<i>Sivan Nir</i>
<i>Monolayers of immunoglobulin G on polystyrene microspheres and their interactions with human serum albumin</i>	<i>Monika Wasilewska</i>

<i>Mechanisms of fibrinogen/anti-fibrinogen interactions at silica</i>	<i>Monika Wasilewska</i>
<i>Micro-structuring of zirconia implant surfaces with bioglass PC-XG3</i>	<i>Nadja Rohr</i>
<i>Fine-tuning cell-adhesion through programmable material engineering.</i>	<i>Eva Kurisinkal</i>

TOPIC 4 Bioanalytics/ Diagnostics / MicroNanofabrication / Lab-on-chip

Titel	Presenter
<i>Fabrication and Application of Electrospun Chitosan/PLGA Bilayered Nanofiber Sheets for Effective Anti-adhesion Barrier</i>	<i>Oh Hyeong Kwon</i>
<i>Modified PLL for Surface Functionalization and Biosensing Applications</i>	<i>Jacopo Movilli</i>
<i>Early Diagnosis of Bladder Cancer</i>	<i>Hanieh Safizadeh Shirazi</i>
<i>Fabrication of Nanopores in Force-Controlled Fluidic Channels and Applications in Biosensing and Bioimaging</i>	<i>Morteza Aramesh</i>
<i>Sequence specific quantification of unlabeled DNA bound to gold nanoparticles</i>	<i>Stephanie Hwu</i>
<i>On demand confinement of DNA using an AFM setup with a micro-channelled cantilever</i>	<i>Til Schlotter</i>
<i>Seamless and suturable wireless fiber strain sensing system for in-vivo biomedical applications</i>	<i>Jaehong Lee</i>
<i>An optical sensor for studying hemocompatibility of biomaterials in a flow system</i>	<i>Johanna Hutterer</i>
<i>Cell Microarray for Non-Adherent Cells Encapsulated by Hydrogel Dome</i>	<i>Satoshi Fujita</i>
<i>Quantitative QCM-D and LSPR by Contrast and Matching Refractive Index, Viscosity and Density of Heavy Water and Glycerol/Water Mixtures</i>	<i>Antonius Armanious</i>
<i>Antibacterial dissolving microneedles for the delivery of therapeutics</i>	<i>Laura E. González García</i>
<i>Using peptide molograms to study mimotope antibody interactions in serum</i>	<i>Andreas M. Reichmuth</i>

<i>Opto-microfluidic platform for testing the enzyme activity of biofunctionalized polymer-brush structures</i>	<i>Celestino Padeste</i>
<i>Challenges in assay development for focal molography with nanoparticles</i>	<i>Fridolin Treindl</i>
<i>Characterisation of dye- and amyloid protein interactions with single biological vesicles using a nanofluidic device</i>	<i>Quentin Lubart</i>
<i>Viscoelastic Properties of Aqueous Electrolytes in Quartz Crystal Microbalance with Dissipation (QCM-D) Measurements</i>	<i>Dmitri Y. Petrovykh</i>

TOPIC 5 Mechanobiology

Titel	Presenter
<i>Tuning Elastic Modes of 3D Fibrillar Collagen I Networks to Control Breast Cancer Cell Activity</i>	<i>Tilo Pompe</i>
<i>Quantitative study of T cell haptotaxis on bioprinted adhesion molecule pattern</i>	<i>Xuan Luo</i>
<i>NaBC1 cooperates with FN-binding integrins for intracellular signalling activation</i>	<i>Patricia Rico</i>
<i>Curvature sensing of epithelial cells under cylindrical confinements</i>	<i>Caterina Tomba</i>
<i>Intracellular energy fluctuations trigger AMPK-mediated mechanotransduction</i>	<i>Jing Xie</i>
<i>Nanotopography and cell function bridged by multivariate Single Cell Analysis</i>	<i>Marie F. A. Cutiongco</i>
<i>Substrate stiffness and VE-cadherin mechano-transduction tune endothelial monolayer integrity</i>	<i>Roberto C. Andresen Eguiluz</i>
<i>Catch bond interactions of CD44+ hematopoietic and epithelial cancer cells to the glycocalyx motif hyaluronan</i>	<i>Axel Rosenhahn</i>
<i>Air-squeeze cytometry: Real-time tunable microfluidic constrictions</i>	<i>Rahul Singh Kotesa</i>
<i>Orchestrating the Topography and Biochemistry of Cell Microenvironment with Contactless and Maskless Quantitative Photopatterning</i>	<i>Mehmet D. Akyuz</i>
<i>Nanopillar force measurements reveal actin cap mediated YAP Mechanotransduction</i>	<i>Jau-Ye Shiu</i>

TOPIC 6 Bioinspired/Responsive Surfaces

Titel	Presenter
<i>Self-foldable graphene-polymer bilayer films</i>	<i>TTetsuhiko F. Teshima</i>
<i>3D printing of polymer scaffolds with porous strut surfaces for bone tissue engineering</i>	<i>Aruna Prasopthum</i>
<i>Thermoresponsive Bottlebrushes on Polymer Surfaces via an Efficient Grafting-through Approach</i>	<i>Daniel D. Stöbener</i>
<i>Immobilizing nanostructures through the strain promoted Azide-Alkyne click (SPAAC) reaction</i>	<i>Serena Rigo</i>
<i>Controlled UV-induced Deposition and Patterning of Natural Polyphenols</i>	<i>Farid Behboodi-Sadabad</i>
<i>Development of immobilised peptide gradients by plasma immersion ion implantation for enhanced endothelial cell interaction</i>	<i>Anne-Sophie Mertgen</i>
<i>Fabrication of granular hydrogels</i>	<i>Esther Amstad</i>
<i>Bacteria-triggered antimicrobial coatings to protect surfaces in aqueous environments</i>	<i>André Ruland</i>
<i>Structure and Dynamics of Lipid Interfaces upon Interactions of Flavonoids Visualised by X-ray Scattering</i>	<i>Amin Sadeghpour</i>
<i>Cholesterol – the last line of defence against biofouling for springtails</i>	<i>Jens Friedrichs</i>
<i>Self-Oscillating Gels Crosslinked by Redox-Active Metal Bipyridine Complexes</i>	<i>Michael Aizenberg</i>
<i>Release of immunomodulatory bioactives from inflammation-responsive hydrogels</i>	<i>Tina Helmecke</i>
<i>Photocrosslinked polyzwitterionic polymers as ultralow fouling coatings</i>	<i>Julian Koc</i>
<i>Peptide nanorod structures made by pH induced self assembly process</i>	<i>Sina Saxer</i>
<i>Engineering Cell Membrane Surface with Modular Chimeric Antigen Receptors for a Cellular Sensor Platform</i>	<i>Jiajun Tan</i>

TOPIC 7 Neuronal / Bioelectrical Interfaces, Brain

Titel	Presenter
<i>Scaffold Development for Brain Cells Co-Culture Compatible for Cryogenic Ultrastructural Imaging</i>	<i>Hung T. Tran</i>
<i>Arbitrary Network Topologies of Neural Circuits in vitro</i>	<i>Sean Weaver</i>
<i>PDMS microstructures for geometric axon guidance: towards building well-defined neural networks</i>	<i>Csaba Forro</i>
<i>Platinum coated-Nanowires for in vitro microelectrode Arrays</i>	<i>Aline F. Renz</i>
<i>A quick and stable Protein patterning Method for neural Cell Culture</i>	<i>Sophie Girardin</i>
<i>A Voltage-Sensitive Ultrasound Enhancing Agent: In Vitro Investigations</i>	<i>Michael Cimorelli</i>

TOPIC 8 3D Cell Culture / Engineered Tissue and Organoid Models

Titel	Presenter
<i>Load Bearing 3D Printing Bioceramic for Calvarial Bone Regeneration via Negative Thermo-Responsive Hydrogel Forming</i>	<i>Chih-Kuang Wang</i>
<i>Novel Alginate Hydrogels: Two Modes of Degradation and Dual Crosslinking for Local Patterning of Biochemical and Biophysical Properties</i>	<i>Aline Lueckgen</i>
<i>A Multi-Scale Characterisation Of Humanised Bone In A Mouse model</i>	<i>Inés Moreno-Jiménez</i>
<i>Cationic nanoparticle-based nanocomposite bioink for 3D-printing cartilage tissue with high printing fidelity</i>	<i>Mihyun Lee</i>
<i>Development of a human air-blood barrier with a biological membrane</i>	<i>Pauline Zamprogno</i>
<i>Versatile hydrogel platform to investigate dormancy of breast cancer cells</i>	<i>Sadra Bakhshandeh</i>
<i>Anti-angiogenic Effect of Nintedanib Investigated in Microvasculature-on-chip</i>	<i>Soheila Zeinali</i>
<i>Bone sialoprotein functionalised collagen gels enhance angiogenesis and osteoblast gene expression</i>	<i>Anja Klein</i>

<i>Self-Organization of Spatial Patterning in Mouse Embryonic Stem Cells Mediated by 3D Geometrical Confinement</i>	<i>Min Bao</i>
<i>3D surface curvature and its influence on growing tissues</i>	<i>Sebastian Ehrig</i>
<i>Bio-hybrid Cleavable Hydrogel System for 3D Cell Culture</i>	<i>Henan Zhan</i>
<i>Notch-inducing hydrogels reveal a reversible perivascular phenotype of MSCs</i>	<i>Martin Ehrbar</i>
<i>Spatio-temporal control of cell invasion in 3D microenvironments</i>	<i>Xiao-Hua Qin</i>
<i>Towards immunocompetent skin models: relevance of co-culture medium</i>	<i>Chiara Griffoni</i>
<i>Novel enzymatically cross-linked poly(2-alkyl-2-oxazoline) hydrogel as a promising candidate for cartilage tissue engineering</i>	<i>Lucca Trachsel</i>
<i>Towards in vitro modeling of early mouse development</i>	<i>Mehmet U. Girgin</i>
<i>Directing Cell Differentiation on Biomaterials through a Supported Lipid Bilayer</i>	<i>Nicole Zeijen</i>
<i>Modulating 3D Mammary Gland Organoid Culture System by FGF Signalling</i>	<i>Chunling Tang</i>