



SSSTC Workshop
“Bioinspired Surfaces & Materials:
Recent developments, technical breakthroughs and translation to application”

Date: September 1 & 2, 2014

Venue: ETH Zurich, Building NO, Room D11, Sonneggstrasse 5, 8092 Zurich

Scientific Program

Monday, September 1

08:45 – 09:00	Registration	<i>Coffee served in front of conference room</i>
09:00 – 09:30	Welcome, introduction and information on SSSTC (André Studart, Marcus Textor, Rahel Byland, ETHZ)	
Time	Speaker	Topic
Session 1: Polymer brushes and application (chair: Karl Gademann, University of Basel)		
09:30 – 10:00	Edmondo Benetti, ETHZ	Engineering of biointerfaces by polymer grafts
10:00 – 10:30	Harm-Anton Klok, EPFL	Surface and interface engineering with polymer brushes
Session 2: Biosensing (chair: Cornelia Palivan, University of Basel)		
10:30 – 11:00	Romana Schirhagl, University of Groningen	Nanoscale magnetic bioimaging
11:00 – 11:20	<i>Coffee/Tea Break</i>	
11:20 – 11:50	Sina Saxer/Uwe Pieleles, FHNW, Muttenz	Tuning membrane permeability of polyethyleneimine capsules
Session 3: Protein/enzyme-based systems, nanocontainers and drug delivery/targeting (chair: Shutao Wang, ICCAS Beijing)		
11:50 – 12:20	Nico Bruns, AMI and University of Fribourg	Proteins and enzymes as functional entities in bio-inspired polymers and materials
12:20 – 12:50	Cornelia Palivan, Xiaoyan Zhang University of Basel	Polymer membranes decorated with proteins as functional bio-nanosystems and biofunctional surfaces
12:50 – 14:20	<i>Lunch</i>	
14:20 – 14:50	Yixin Zhang, TU Dresden/B CUBE	High throughput screening – from drug discovery to biomaterials
Session 4: Cell-material engineering (chair: Yixin Zhang, TU Dresden/BCUBE)		
14:50 – 15:20	Karl Gademann, University of Basel	Inducing neurite outgrowth by natural product based surface modification
15:20 – 15:50	<i>Coffee/Tea Break</i>	
15:50 – 16:20	Shutao Wang, ICCAS Beijing	Engineering biointerface with controlled cell adhesion towards cancer diagnostics
16:20 – 16:50	Marcy Zenobi-Wong, ETHZ	Biomimetic hydrogels for cartilage regeneration
16:50 – 17:00	Wrap-up of the day	

Tuesday, September 2

Session 5: Engineered mechanical properties (chair: Lei Jiang, ICASS Beijing)		
Time	Speaker	Topic
09:00 – 09:30	Yoan Simon, AMI and University of Fribourg	Mechanosensory pathways: an inspiration for polymer chemists
09:30 – 10:00	André Studart, ETHZ	Self-shaping materials with bioinspired programmable microstructures
10:00 – 10:30	Wen Yang, ETHZ	Protective role of fish scales: Structure and mechanical behavior
10:30 – 10:50	<i>Coffee/Tea Break</i>	
Session 5 Engineered mechanical properties (chair: André Studart, ETHZ)		
10:50 – 11:20	Lei Jiang, ICCAS Beijing	Bio-Inspired interfacial materials with super-wettability
11:20 – 11:50	Prof. Hannes Schniepp, College of William and Mary, US	Spider silk nanoribbons – A prototype for strong and tough protein films
11:50 – 12:30	Chairs	Discussion on future collaborations/meetings (SSSTC-based or other) Closing of Workshop
12:40 – 14:00	<i>Lunch</i>	
14:15 – 16:00	Visit to Zoological Museum, University of Zurich , Institute of Evolutionary Biology and Environmental Studies (optional)	Focus on the zoological view on bioinspired materials & surfaces