

# MATERIALS FOR TOMORROW 2017

## *Materials for Health*

### Monday, Nov 6

08:45 - 09:00	Welcome address	Peter Thomsen/Aleksandar Matic
	High resolution imaging of material-biology interactions	Chair: Eva Olsson
09:00 - 09:20	High-Resolution Microscopy of Bone/Material Interface	Martin Andersson, Chalmers University of Technology
09:20 - 09:40	Multiscale and multimodal analyses of osseointegration	Anders Palmquist, University of Gothenburg
09:40 - 10:00	Human spermatozoa with a twist	Johanna Höög, University of Gothenburg
10:00 - 10:30	Coffee break	
10:30 - 11:10	Keynote lecture: Peptide-crosslinking of biomaterials for 3D bio-printing	Sarah Heilshorn, Stanford University
	Manufacturing/3D printing and functionalization of medical devices	Chair: Marianne Liebi
11:10 - 11:30	Craniofacial Bone Reconstruction and Regeneration with the use of Ceramic Implants	Thomas Engstrand, Karolinska Institute, OssDsign
11:30 - 11:50	3D Bioprinting of cartilage tissue -Translation to clinic	Paul Gatenholm, Chalmers University of Technology, 3D Bioprinting Center
11:50 - 13:30	Lunch, including poster session	
13:30 - 13:50	Additive Manufacturing of High Performance Metallic Materials - Design and Performance Opportunities	Lars Nyborg, Chalmers University of Technology
13:50 - 14:10	3D bioprinting of human soft tissue models	Hector Martinez, Cellink
14:10 - 14:30	Additive Manufacturing of Medical Applications – How and Why?	Maria Pettersson, Arcam
14:30 - 15:00	Coffee break	
15:00 - 15:40	Keynote lecture: Bio-responsive hybrid materials for regenerative medicine and biosensing	Molly Stevens, Imperial College and Karolinska Institute
15.40 - 17.00	Young Scientists Forum	

## Tuesday, Nov 7

	Extracellular vesicles: biological roles and effects, diagnostic and therapeutic opportunities	Chair: Peter Thomsen
08:30 - 08:50	Merging Molecular Self-Assembly with Additive Manufacturing- New Routes for forming Heterogeneous Bioinspired Nanocomposites	Anand Kumar Rajasekharan
08:50 – 09:10	Is there a link between bisphosphonate-exposure and altered biomineralisation in bone	Furqan Ali Shah
09:10 - 09:30	Extracellular vesicles; messengers in cell differentiation and regeneration	Karin Ekström, University of Gothenburg
09:30 - 09:50	A biophysical assay toolbox to study the mode of action of lipid-based biomolecular carriers	Marta Bally, Chalmers University of Technology
10:00 - 10:30	Coffee break	
10:30 - 10:50	Optofluidics characterization of nanoparticles and their interaction with cell-membrane mimics	Fredrik Höök, Chalmers University of Technology
	Infection Control	Chair: Martin Andersson
10:50 - 11:30	Keynote lecture: Prosthetic joint infections – many unresolved issues	Ola Rolfson, Sahlgrenska Academy/University of Gothenburg, National Hip Register
11:30 - 12:10	Keynote lecture: The Age of Nanobiotics: Two Decades of Commercializing Nanotechnology for Medical Devices	Prof Thomas Webster, Northeastern University
12:10 - 13:10	Lunch break	
13:10 - 13:30	Genetic regulation of staphylococcal biofilms and host response on biomaterials	Margarita Trobos, Sahlgrenska Academy/University of Gothenburg
13:30 - 13:50	Title How much is enough? Probing the required cell-surface contact area for bacterial adhesion to nanomaterials	Mats Hulander, Chalmers University of Technology
13:50 - 14:10	Antibacterial surface coatings for biomedical applications	Saba Atefyekta, Chalmers University of Technology
	Materials for patients - ethics, rules, education	
14:10 - 14:30	Ethical principles and clinical rules for the use of new materials in patients	Björn Rydevik, Sahlgrenska Academy/University of Gothenburg
14:30 – 14:40	Concluding remarks	Peter Thomsen