

## Wednesday 4 November

12:00-13:00 Registration

13:00-13:15 Opening of the symposium

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### Session 1 Novel nanomaterials for bio-applications (Part I)

Chair person: Jöns Hilborn

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13:15-13:45 *Plasmonic processes in biomedicine*

**Naomi Halas**, Rice University, USA

13:45-14:15 *Delivery of TLR7 agonists to monocytes by surface engineered liposomes*

**Thomas Andresen**, DTU Nanotech, Denmark

14:15-14:45 *Metal oxide nanoparticles and nanostructures as functional constituents in smart drug delivery systems*

**Vadim Kessler**, Swedish University of Agricultural Sciences, Sweden

14:45-15:15 Coffee break

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### Session 2 Novel nanomaterials for bio-applications (Part II)

Chair person: Fredrik Höök

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15:15-15:45 *Mesoscopically ordered bone mimetic nanocomposites*

**Martin Andersson**, Chalmers University of Technology, Sweden

15:45-16:15 *Using neutron scattering in biology: The case for membrane proteins and lipoprotein particles*

**Marité Cárdenas**, University of Copenhagen, Denmark & Malmö University, Sweden

16:15-16:45 *Mesoporous silica nanoparticles for diagnostic and therapeutic nanomedicine*

**Jessica Rosenholm**, Åbo Akademi University, Finland

16:45-17:15 Annual proceedings (Årsmöte) of the Division of surface chemistry and materials chemistry within the Swedish Chemical Society (members only)

16:45-19:00 Poster session and mingle

## Thursday 5 November

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### Session 3      **Diagnostics and biosensors**

Chair person: Hjalmar Brismar

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09:00-09:30      *Label-free analysis of peptide arrays for profiling cellular lysates*

**Milan Mrksich**, Northwestern University, USA

09:30-10:00      *Development of surface-sensitive imaging techniques to characterize biological nanoparticles*

**Fredrik Höök**, Chalmers University of Technology, Sweden

10:00-10:30      Coffee break

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### Session 4      **Drug delivery**

Chair person: Jessica Rosenholm

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10:30-11:00      *Advanced particle design for therapeutic delivery by interfacing materials science and biology*

**Frank Caruso**, Melbourne School of Chemical Engineering, Australia

11:00-11:30      *Endogenous-inspired hydrophobic drug delivery to cancers: LDL-like nano particles designed to "put the drug in the cancer's food"*

**David Needham**, University of Southern Denmark (SDU), Denmark

11:30-12:00      *Modification of microcapsules for controlled release*

**Markus Andersson Trojer**, Swerea IVF and Chalmers University of Technology, Sweden

12:00-13:00      Lunch

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### Session 5      **Colloidal biology**

Chair person: Irep Gözen

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13:00-13:30      *Bacterial awareness of a biomaterial surface and its consequences*

**Henk Busscher**, University Medical Center Groningen (UMCG) and University of Groningen (RUG), The Netherlands

13:30-14:00      *Energy efficient organization of proteins in the plasma membrane*

**Hjalmar Brismar**, KTH Royal Institute of Technology & SciLifeLab, Sweden

14:00-14:30      *Intermolecular interactions and the distribution of specific membrane proteins in a T-cell/antigen-presenting-cell contact*

**Peter Jönsson**, Lund University, Sweden

14:30-15:00      *Self-assembly and phase transitions in self-propelled colloids*

**Joakim Stenhammar**, University of Edinburgh, United Kingdom

15:00-16:00      Poster session and coffee break

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<b>Session 6</b>	<b>Biomaterials and self-assemblies</b> Chair person: Gurvinder Singh
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16:00-16:30	<i>Bioactivity of supramolecular peptide nanostructures</i> <b>Samuel Stupp</b> , The Stupp Laboratory at Northwestern University, USA
16:30-17:00	<i>The magic bullet of small interfering RNA (siRNA) is easy to manufacture, it targets sharply and has high kill rates. But how to pull the trigger?</i> <b>Jöns Hilborn</b> , Uppsala University, Sweden
17:00-17:30	<i>Effect of micro-stirring on enzymatic reactions inside a biomimetic container</i> <b>Irep Gözen</b> , Harvard University, Paulson School of Engineering and Applied Sciences, USA
19:00-	Conference dinner, at Kårhuset Pharmen, mingle from 18:00.

## Friday 6 November

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<b>Session 7</b>	<b>Biomimetic systems</b> Chair person: Marité Cárdenas
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09:00-09:30	<i>Recognition in tight spaces</i> <b>Deborah Leckband</b> , University of Illinois, USA
09:30-10:00	<i>Multifunctional nanoparticles with targeting and imaging capabilities</i> <b>Kajsa Uvdal</b> , Linköping University, Sweden
10:00-10:30	Coffee break

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<b>Session 8</b>	<b>Novel nanomaterials for bio-applications (Part III)</b> Chair person: Joakim Stenhammar
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10:30-11:00	<i>Nanocapsules and their interactions with biological materials</i> <b>Katarina Landfester</b> , Max Planck Institute for Polymer Research, Germany
11:00-11:30	<i>Formation of biominerals: On the pre-nucleation cluster pathway &amp; the multiple roles of additives</i> <b>Denis Gebauer</b> , University of Konstanz, Germany
11:30-12:00	<i>Designing materials at different length scale for biomedical applications</i> <b>Gurvinder Singh</b> , Norwegian University of Science and Technology (NTNU), Norway
12:00-12:30	The Norblad-Ekstrand medal lecture
12:30-13:00	Closing remarks