Biological Responses to Nanoscale Particles
SPP1313

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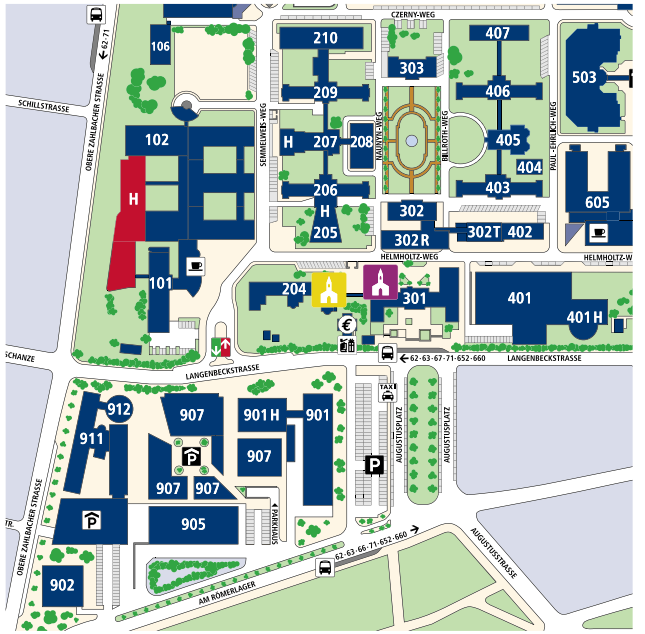

Geb. 102/E

Universitätsmedizin
der Johannes Gutenberg-Universität Mainz,
Langenbeckstr. 1, 55131 Mainz

Hörsaal I, Augenklinik / Frauenklinik

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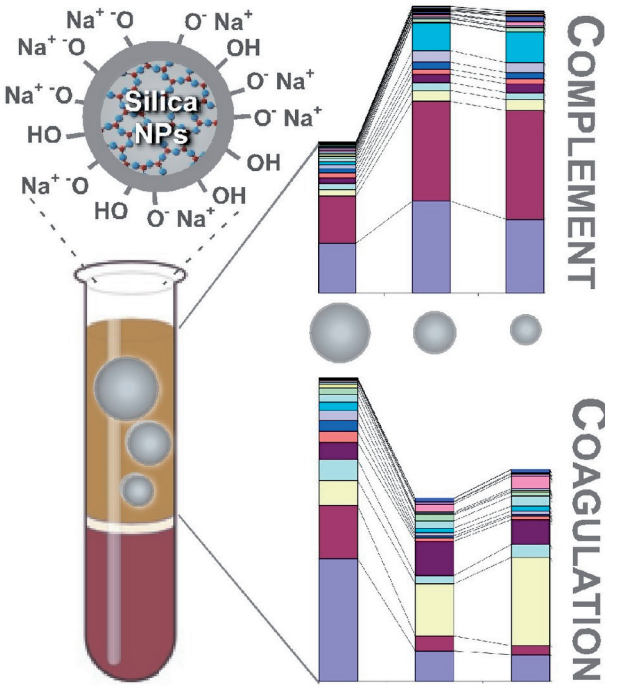

The Nanoparticle-Protein Corona: Characterization and Relevance

Thursday, December 8, 2011
12.00 - 19.30 Uhr

Unser Wissen für Ihre Gesundheit

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The Nanoparticle-Protein Corona: Characterization and Relevance

Dear colleagues,

nanomaterials for bio(medical) applications have raised high expectations not only for the clinics but also for an advanced understanding of molecular mechanisms in biology as well as in nanostructure sciences. When nanomaterials enter a biological fluid, proteins and other biomolecules rapidly compete for binding to the nanomaterial surface, leading to the formation of a dynamic protein corona that critically defines the biological identity of the particle. Particle material, size and surface properties have been suggested to play a role in determining the composition of the corona, albeit the underlying physico-chemical mechanism are not yet understood. In order to improve our understanding of the nano-bio interface, we would cordially invite you to attend our workshop to discuss recent progress in the field and stimulate collaborative efforts. Emphasis will be put on: ·Methods for characterizing of the nanomaterial-protein interactions ·Impact of the nanomaterial-protein corona on the physico-chemical behavior and biological consequences of the nanomaterials · Steering of the nanomaterial-protein corona by a rational design of nanomaterial characteristics - The meeting addresses researchers from different scientific areas medicine, physics, chemistry, pharmacology, biology, bioinformatics sharing an interest in the interdisciplinary field of nanobiology. We would appreciate to welcoming you on the occasion of the symposium on December 8th, 2011 at the Medical University in Mainz.
With best regards
Roland Stauber, Dominic Docter, Anna Musyanovych

12.00	**Arrival and lunch**
13.30	**Opening and welcome** R. Zellner & R. Stauber
13.45	**Label-free quantitative proteomic analysis of the nanomaterial-protein corona: Advantages and limitations** BIONEERS, UMM - Institute for Immunology, Mainz; Stefan Tenzer
14.10	**Quantitative Fluorescence Spectroscopy of the Protein Corona** NanoBioTox, KIT, Karlsruhe; Maffre Pauline
14.35	**Protein adsorption on polymer nanoparticles** NANOCELLINTERACT, Max Planck Institute for Polymer Research, Mainz; Katharina Landfester
15.00	**The formation and nature of the protein corona - Impact on protein structure and function** NanoAG, Universität Duisburg-Essen, Physikalische Chemie; Lennart Treuel
15.25	**Effect of Protein-Nano Interaction on the Luminescent Properties of Ultra-small Metal Nanoclusters** NanoBioTox, KIT, Karlsruhe, Shang Li
15.50	**Coffee Break**
16.30	**How the surface chemistry of nanoparticles affects the adsorption of proteins?** NANOCELLINTERACT, Max Planck Institute for Polymer Research, Mainz, Anna Musyanovych
16.55	**Investigating the Influence of Surface Charge on the Protein Adsorption Pattern and Cellular Interaction of Polymer Coated SPIONs in Vitro** Adolphe Merkle Institute University of Fribourg, Vera Hirsch
17.20	**The dynamic of the NP-Protein corona- implications for Bio-Nano responses** BIONEERS, UMM - Molekulare und Zelluläre Onkologie/Mainz Screening Center, Mainz; Roland Stauber
17.55	**Concluding remarks**
18.00	**Poster session & discussion**
19.30	**Dinner & Social get-together** http://www.proviant-magazin.de/