EINLADUNG

Hiermit lade ich ein zum öffentlichen Promotionskolloquium von

Frau M.Sc. Johanna Koltermann-Jülly
Biopharmazie und Pharmazeutische Technologie
(Prof. Dr. C.-M. Lehr)

am

Dienstag, 21. Januar 2020, 15:30 Uhr
Gebäude E8.1 (HIPS), Seminarraum 0.27, EG

Thema der Dissertation:

The role of alveolar macrophages in biokinetics and biological effects of inhaled nanoparticles

Some poorly-soluble nanoparticles (NPs) cause pulmonary inflammation upon inhalation. Histo-pathological effects of different NPs differ in types of initial and long-term effects. Surprisingly, lung clearance differs, too. Alveolar macrophages (AMs) are chiefly involved in pulmonary immune responses and in particle clearance. This dissertation project investigated first whether AMs accelerate biodissolution of NPs. Second, it aimed at identifying AM subpopulations (M1, M2) in lungs of animals exposed to different NPs, and to find a correlation between early AM polarization and long-term outcome. Under acidic lysosomal conditions and in synergy with the dynamic conditions of the lungs, BaSO₄ NPs undergo accelerated biodissolution. Immunohistochemistry of lung specimen revealed a correlation of M1 and M2 AM relative numbers with acute inflammation after exposure to different NPs. A correlation with the quality of histopathological effects or long-term outcome could not be found. Understanding the contribution of AMs to pulmonary morphological changes might identify biomarkers, which might allow for predicting long-term outcome following NP exposure.

Saarbrücken, 07. Januar 2020

Prof. Dr. Gregor Jung
Vorsitzender des Promotionsausschusses