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Scientific Evening Talk

Tuesday, 9th September 2014, 6:30 p.m.

Magnus-Haus Berlin, Am Kupfergraben 7, 10117 Berlin

Dr. Maria Messing
Synchrotron Radiation Research, Solid State Physics
Lund University, Sweden

Potential Health Risks of Nano-Particles: What Do We Know?

The discussion will be chaired by
Prof. Dr. Wolfgang Eberhardt
Scientific Director of the Magnus-Haus Berlin

'Nachsitzung' with food and drinks in the 'Remise' sponsored by the WE-Heraeus-Foundation.

To attend the Scientific Evening Talk please register:
http://www.dpg-physik.de/dpg/magnus/formulare/formular_2014-09-09/anmeldung-2014-09-09.html

Maria Messing
After receiving her master in Engineering Nanoscience she continued to do a PhD at Lund University on engineered nanoparticles and their applications. Currently she is leading the aerosol nanoparticle group at the division of Solid State Physics, which is part of the nanometer structure consortium at Lund University, where she is working as assistant professor. One of her research interests is the field of nano safety and particularly how nanoparticles can be handled in a safe and sustainable manner.

Abstract
The field of nanotechnology, in which matter is studied and manipulated on the atomic or molecular level, is currently attracting enormous attention. Nanotechnology already has, and will continue to have, considerable impact on our life as well as on the global economy.
During the past decade there has been a massive increase in novel applications and products based on nanoparticles. Although belief in the potential of nanoparticles is strong, major concerns have been expressed regarding their effect on human health and the environment. Not only should nanoparticle-based products be safe for consumers to use, but also their effects on the environment (e.g. when consumers wash off sunscreens or cosmetics containing nano-particles) should be harmless. Moreover, the handling of particles during the fabrication of products must be carried out safely.
A material known to be non-toxic in bulk form might be toxic on the nanometer scale due to its special properties. Conventional toxicology regulations for materials are often based on total mass, which may not be relevant in the case of nanoparticles, and hence the field of nanotoxicology is growing fast.
In this talk different risk scenarios during the nanoparticle life cycle will be discussed, how one might measure nanoparticles in the air and different methods to study nanotoxicology.