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## Silver nanoparticles and synchrotron light-based nanotoxicology: new imaging modalities

*Thursday, 15 September 2011 13:17 (2 minutes)*

Silver nanoparticles belong to the most studied, produced and broadly distributed nanoparticles. Despite this, a critical investigation of their potential adverse effects on model living and ecological systems is still required. Along well-established biochemical tests, a reproducible and simple methodology to image their precise distribution in cells is missing. Their imaging in cells requires usually complex preparation like embedding/sectioning for electron microscopy or may have only a limited spatial resolution like in confocal Raman Microscopy. Often, studying the chemical composition and oxidation state of elements within a cell is a daring task. Our aim is thus to further exploit synchrotron radiation for nanotoxicology and contribute to develop complementary protocols for biological object imaging. To do this, we incubate a model macrophage cell line with our in house developed silver nanoparticles system and study the internal distribution of particles using ptychography, Scanning X Ray Transmission Microscopy (STXM), tomography and X ray absorption spectroscopy at the cSAXS and microXAS beamlines at SLS. We will present our first results in this poster.

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Imaging / Advancing Quantitative Chemical Imaging

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