



## Influences of the coating on silver nanoparticle toxicity in a chronic test with *Daphnia magna*

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**MO317 Influences of the coating on silver nanoparticle toxicity in a chronic test with *Daphnia magna*** Y. Sakka, University of Bremen / General and Theoretical Ecology; A. Mackevica, Technical University of Denmark / Environmental Engineering; L. Skjolding, DTU / DTU Environment; A. Baun, Technical University of Denmark DTU / DTU Environment; J. Filser, University of Bremen. Sources for differences in silver nanoparticle toxicity at standardized conditions can be numerous. They range from particle properties and their actual concentrations to differences in uptake or depuration by the test organisms. In the present study we compared the toxicity of two differently coated AgNP in a chronic *Daphnia* test. One type of AgNP was coated with citrate (cAgNP), the other AgNP were generally uncoated (pAgNP; p= pure), but sterically stabilized by an organic dispersant. Particles with a similar shape and diameter were chosen. The focus of the study was to relate observed differences in toxicity to characteristics of the AgNP, like size or surface potential, or to their corresponding behaviour during the test, like dissolution or uptake. The characteristics and the behaviour of the AgNP were investigated for changes in stability and especially the release of silver ions. In addition, uptake and depuration by the daphnids were compared. A chronic test was run with both AgNP at the same time. The results of the study are currently being analysed. The overall pattern of toxicity appears similar for both AgNP types, however, the less stable citrate AgNP (cAgNP) are more toxic than the more stable sterically stabilized AgNP (pAgNP). Whether this can be related to the concentrations in the test media, to the release of silver ions or to differences in uptake or depuration by the daphnids will be presented on the poster.