

Fate and effects of nanomaterials in soil

CHAIRS: Kees van Gestel, David Spurgeon



Tuesday 13th May 2014, 08:10 – 10:15, room: Singapore

Nanotechnology is fast expanding with its products ending up in the soil environment in increasing concentrations. As a consequence, concerns about the possible effects of nanoparticles in soil also is increasing. This has led to steadily growing efforts on assessing the fate of nanoparticles in soil in order to assess exposure and on determining their potential effects on soil organisms. This session deals with the fate, bio-availability, exposure, and effects of nanomaterials in soil. It will present result of studies dealing with the short-term and long-term fate of nanoparticles in soil, their dissolution and the development of bioavailability with time and in relation to different soil properties. It will present results of studies relating the toxicity of nanoparticles to soil organisms with soil properties and other environmental factors. This session will also host studies relating nanoparticles uptake (kinetics) in soil organisms to exposure and bioavailability in soils. In case of metal-based nanoparticles, it is important to distinguish uptake and effects of nanoparticles from that of the dissolved metal fraction. Finally, studies will be included that assess the possible uptake of nanoparticles in different tissues and studies that aim at comparing responses of different test species with different physiology and exposure routes. The overall aim of the session is to present the latest developments in research that enhances our understanding of environmental processes governing the fate, exposure, bio-availability and effects of nanomaterials in soil.

SESSION TYPE: Platform and Poster

ADVISORY GROUP: Global Soils Advisory Group