Usage, fate and risk of carbon based nanomaterials.

CHAIRS: Marinella Farre, Thilo Hofmann, Melanie Kah

Tuesday 13th May 2014, 13:55 – 16:00, room: Singapore

Nanotechnology is fast becoming one of the major research areas within chemistry. Its appeal stems from the desire to investigate and manipulate matter at the level of individual atoms and molecules. Nanomaterials have become an essential part of modern society and their development has promoted extensive technical advances. However, nanomaterials are rapidly becoming emerging contaminants for which human and ecological exposure and effects need to be assessed in order to characterize the potential hazards and risks. Due to their unique properties, carbon-based nanomaterials (CNMs) have attracted considerable interest in many fields of research, including materials sciences, microelectronics and biomedicine. The growing use and the mass production of CNMs have stimulated research on their potential impact on the environment and human health. Assessing the risk of CNMs requires the development of reliable analytical methods, a better understanding of their environmental behaviour and evaluation of their toxicity. This session is designed to highlight major advancements in the fields of:

- Current use of CNMs (e.g., fullerenes, carbon nanotubes, nanopesticides)
- Life cycle of technologies using CNMs and potential releases to the environment,
- Characterization of CNMs in complex environmental settings,
- Surface properties studies, which are vitally important for their aggregation behavior, their mobility in aquatic systems,
- Potential interactions between CNMs with other contaminants present in the same media
- Adequate toxicological characterization
- Possible future regulations.

SESSION TYPE: Platform and Poster