



## SS03

### Nanomaterials in the environment

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The nanotechnology industry has continued to grow at a rapid pace and has resulted in the commercialization of more than one thousand industrial use and consumer products. Though there are many unanswered questions surrounding this technology both in terms of benefits and risks there has been a steady flow of research across the spectrum of disciplines that directly and tangentially relate to nanotechnology. These include:

- new techniques to produce specialty nanoparticles;
- refinement of instrumentation to separate and detect engineered nanoparticles (ENPs) from naturally occurring nanoparticles in complex environmental matrices;
- hosts of studies to estimate exposures to ENPs in various receptors;
- laboratory tests to evaluate effects these substances have on organisms; and
- Life cycle of technologies using ENP and potential releases to the environment.

Entrepreneurs and economic development groups will continue to explore the benefits of nanotechnology. SETAC members are contributing crucial information about the environmental fate and ecological consequences that when organized into the environmental risk framework allow for objective discussion that can inform the sustainability dialogue, a central pillar of the World Congress.

This session is designed to highlight major advancements in the fields of characterizing the various aspects of nanomaterials in complex environmental settings. The proposed speakers are recognized experts in the selected areas. They will portray the state-of-the-science for that particular area and underscore the major challenges faced by the research scientists, industry, and regulators. Each will also spotlight specific sessions, and identify presentations and posters in the program that represent substantive advances in the field. The general flow of the session would be as follows:

1. Opening of the session: Highlight the sponsorship and purpose of the Nanotechnology Advisory Group and identify the goals of the session.
2. Peeking into the Future - what can we expect from the nanotech industry?
3. Overview of Regulatory Climate (focus on the EU, but include other regions)
4. Advances in Detection Methods available to Analyze Complex Environmental Media
5. Fate and Behaviour of Engineered Nanoparticles affecting Exposure in Natural Systems
6. Challenges in Determining Ecotoxicity Responses
7. Panel Discussion
8. Closing Comments