



SS09

Radionuclids and radiation

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In the wake of the compound March 2011 nuclear disaster at the Fukushima nuclear power plant in Japan, international public dialogue has repeatedly turned to questions of the adequacy of existing regulatory frameworks to protect us from nuclear harm. It is clear that the sustainability of using nuclear energy and radioactivity for civilian purposes needs to be grounded to societal acceptance. Societal acceptance in turn is highly dependent on the transparent explanation of risks and the demonstration that continuous effort is dedicated to close uncertainties with appropriate knowledge and understanding. Emerging lessons seem to indicate an opportunity to enhance resilience through systemic levels of risk aggregation. This session will discuss frameworks for bringing systemic reasoning to the risk management process with focus on radioecology. Discussion topics and presentations will include:

- Radionuclides speciation, bioavailability and transfer (soils, sediments, freshwater, marine water...)
- Radionuclides distribution in biological media and structures (animals and plants)
- Radiation effects on biological and ecological systems (incl. dose-effects relationships)
- Ecological risk assessment of radiation and regulatory aspects (incl. waste repository issues)
- Contaminated land (natural/agricultural) remediation/mitigation/reclamation (including phyto-remediation/stabilisation techniques)
- Risk-based decision analytical frameworks for risk management (including integration of expert judgment and modeling for policy analyses)