

EMERGING CONTAMINANTS' IN SOIL AND GROUNDWATER

Europeans benefit from carefully designed fire fighting, pharmaceutical or personal care chemicals but must also deal with them in the environment

Why we need to act?

Emerging contaminants were designed to be recalcitrant (e.g. firefighting agents), to interact with human or animal biochemistry (e.g. pharmaceuticals) and often occurring in mixtures at low concentrations in the environment. They pose challenges of measurement, assessment and control. Greater knowledge about the properties of 'emerging' contaminants, and mixtures, their distribution in groundwater and soil, their toxicity to humans as well as soil and freshwater ecosystem services is needed to ensure public health and long-term provision of ecosystem services..

What we will gain?

Greater understanding of the impacts of 'emerging contaminants' will help us safeguard freshwater supplies and protect soil related ecosystem services. 'Emerging contaminants' (e.g. firefighting agents, endocrine disrupters, pharmaceuticals & personal care products) may worsen groundwater quality and degrade soil ecosystem services. However, their impacts on different temporal and spatial scales, the effects of mixtures and cost-effective strategies to minimize their discharge or to remediate contamination remains elusive. Environment specimen banks can provide samples for retrospective analysis (e.g. the German www.umweltprobenbank.de). More samples in multiple media are needed to understand the net-impact in the environment.

Key research areas

INSPIRATION's bottom up approach revealed pressing research and innovation needs for emerging contaminants in the following areas:

- Standardised ways of detecting and analysing, emerging contaminants
- Harmonised approaches to monitoring, risk assessing and where necessary remediating emerging contaminants

How to become active?

Contact your INSPIRATION national contact at www.inspiration-agenda.eu to identify joint funding options for this topic. For further information on this topic please contact Paul Nathanail (paul.nathanail@nottgtingham.ac.uk & @cpnathanail).

