CEC03: Lessons learned and future directions for toxicology in water safety and security

Chairs:

Heidi Foth, Germany | Elaine Faustman, US

Presentations:

Water bodies and frame work for protection
Heidi Foth, Martin Luther University, Institute of Environmental Toxicology, Halle (Saale), Germany

Contamination in groundwater by overuse of fertilizers and implications for human health
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Contamination pattern by pesticides in water
Aristidis Tsatsakis, University of Crete, Greece

Arsenite in drinking water
Louis Schiesari, University of Sao Paolo, Brazil

Dissipative use of lead a future risk for groundwater
Thomas Schupp, FH Münster –University ofApplied Sciences, Steinfurt, Germany

Expectations on toxicology in future directions in water safety and security
Elaine Faustman, University of Washington, Environmental & Occupational Health Sciences, Seattle, US

Abstract:

Water Security is to safeguard protection against water-borne pollution and water-related disasters, and for preserving ecosystems. Toxicological expertise enrolled into risk assessment is characterized and evaluated within the framework tools that address human health and ecological health. Methods for assessing water quality and human health well-being, ecosystems functioning and some aspects of food production depends on cross disciplinary research between epidemiologists, toxicologists, engineers and geo-scientists.

The risk assessment framework allows for a standard approach that can be used in geosciences and human health fields. Data can be collected through surveys, environmental measurements or biomarker assessments to characterize exposure. Biomarkers are particularly useful for integrating these concepts as they may include markers of exposure, susceptibility and early biological effects.

The process needs integrated approaches for evaluating water security. The course will give insights into several examples provide integrated context on identifying sustainable risk management options