

Invitation

You are invited to a public presentation by **Stephanie Gaengler**, as part of her PhD thesis defense titled:

Exposure Assessment to Disinfection By-Products: From Personal Exposure Assessment to Population Health

Date & Time: 11 December 2017
Monday, 15:00

Language: English

Venue: Lecture Room-Ground Floor, CII
Building Eirinis 95 Street, Lemesos

Abstract:

"Exposure to disinfection by-products (DBP) affects large population groups around the world, thus any association with adverse outcomes should be known. Trihalomethanes (THM) are a representative group of DBP and their exposure distribution and health effects are often used as surrogates for the whole class. THM comprise of chloroform, bromodichloromethane, dibromochloromethane and bromoform, all of which have shown to exhibit hepatotoxic effect in high concentrations. This study aimed to assess the different tools for exposure assessment, population differences as well as metabolic markers of exposure and possible health outcomes related to exposure to THM. Methodologies from personal exposure assessment, environmental monitoring, monitoring of biomarkers of effect and exposure and untargeted metabolomics were brought together and assessed with extensive statistical analysis. Factors such as geography, climate conditions, lifestyle, environment, chemical exposures, and endogenous processes were integrated, showing the various stages and steps towards the comprehensive assessment of the exposome.

Within this project significant country differences in urine levels of THM in populations of Cyprus, Kuwait, Norway and the Netherlands were found. Both, external and internal factors influenced the THM biomarker levels and the biomarkers of effect. Whereas in low exposed populations, based on their urinary THM levels, no specific metabolic changes due to exposure could be found. This research provides additional insight for methodological improvement in THM exposure assessment and provides the basis for targeted hypothesis-driven investigation towards improved dose response assessment and safe exposure levels."