

The central role of modern analytical tools in studying the link between oceans & human health

Lynn Vanhaecke, Steve Huysman and Lieven Van Meulebroek

Ghent University, Department of Veterinary Public Health and Food Safety, Laboratory of Chemical Analysis, Merelbeke, Belgium

E-mail contact: Lynn.Vanhaecke@Ugent.be

A plethora of human activities (e.g. industrial processes, domestic households and agriculture) severely impacts our marine environment, and as a result thereof also human health. In this context, it is essential to acquire valuable insights on 1) the presence of potentially bioactive residues, contaminants and toxins in our marine environment originating from human activities, 2) the uptake, bioaccumulation and metabolisation of these bioactive substances by edible aquatic species, and 3) the health risks or benefits associated with human exposure to these substances and their conjugates. New tools for monitoring (i.e. passive samplers) as well as high-end analytical instrumentation (i.e. high-resolution mass spectrometry for profiling and fingerprinting) are indispensable to acquire a correct view on the status of the marine environment and its impact on human health. In this presentation, several practical examples will be shared that demonstrate this.