

Quantification of Microplastics (MPs) in Environmental Samples and MPs Toxicological Effects on Marine Organisms

Plastic debris do not readily degrade and their accumulation and abundance in coastal environments is now recognised as among the highest priority issues for environmental research and policy. Microplastics (MPs) are small plastic particles (< 5 mm) which can be produced by fragmentation of larger debris or manufactured as microbeads (e.g. used in cosmetics, medical applications, etc), and be directly released into the environment. There is a concern that the abundance of these plastic particles in the marine environment is increasing. Standardized methods for detection of microplastic accumulation in the environment are critical to establish levels of exposure, facilitate comparison among studies, and enable robust assessments of environmental risk. The consequences of the increased abundance and persistence of MPs in marine environments are still poorly understood. Laboratory studies have established that there is potential for toxicological effects on aquatic organisms, but the effects at environmentally relevant concentrations are not yet well established.

The goals of this project are:

- To develop standardised methodologies for the quantification of MPs from environmental samples
- To evaluate the toxicological and physiological effects of MPs in marine organisms

Internship projects will involve laboratorial work, but there is flexibility to develop activities towards the student's interest. For more information regarding this project feel free to contact Ana Catarino (ana.catarino@vliz.be) and Gert Everaert (gert.everaert@vliz.be).

Working environment and support:

The Flanders Marine Institute (VLIZ) is an autonomous institute with the legal status of a non-profit organisation and has the following strategic objectives:

- Promoting Flemish marine scientific research
- Serving as an international contact point in the marine scientific field
- Promoting the international impact of Flemish marine scientific research
- Promoting the visibility of Flemish marine scientific research to the public at large by means of popularisation and sensitisation
- Providing scientific information on the sea to policy makers, whether or not upon request, so that they can use this information to develop their policy with regard to marine affairs

VLIZ is located in the coastal town of Oostende (Belgium). For more information on our activities, please visit the website www.vliz.be.