

**Proposed thesis topic for the Doctoral degree studies (2021-2025) in
Ecology and Environmental Science at Marine Research Institute (Klaipėda University)**

Title	Micro litter in the coastal environment of the southeastern Baltic Sea
Brief description of the topic	The monitoring of marine litter is mainly focused on the beached macro marine litter (2.5–50 cm), therefore meso (2.5–0.5 cm) and micro (<0.5 mm) particles and remaining marine environment compartments are being neglected. Plastic litter is often intertwined and embedded in accumulations of algal wrack or scum due to circulation which collects floating materials in the zone of convergence. However, there is no knowledge what amount of litter is accumulated in such places and if the management of such “hot spots” could be efficient and important for the reduction of marine litter in the marine environment. Therefore further development of sampling strategies and techniques for monitoring of micro litter pollution in the coastal zone and surface water is needed. An analysis of micro litter pollution pathways and fate in the marine environment is necessary. An assessment of the link between the micro litter and naturally occurring algal blooms or beach wrack to estimate possible hot-spots for micro litter accumulation in marine and coastal environments will allow to fill in the necessary knowledge and data gaps in MSFD implementation while ensuring surveillance of the Baltic Sea environmental status and providing relative management strategies.
Requirements for a candidate	Good knowledge of marine litter monitoring and sampling methods; experience in laboratory and fieldwork, with a focus on microliter analysis, experience in international research, ability to work independently, and good language skills, especially in English.
Existing research experience	The PhD student will closely work within the Coastal and Marine Management group, where one of the major topics focuses on marine litter issues and on the development of monitoring methods and strategies as well as indicators and pollution thresholds. Further, assessment of the state of pollution, spatial transport pattern and the effectiveness of measures to support the implementation of the Marine Strategy Framework Directive. Group members have past and present experiences in participation in the international science project, such as BONUS MICROPOLL - Multilevel assessment of microplastics and associated pollutants in the Baltic Sea and ESMIC - Estimation, monitoring and reduction of plastic pollutants in Latvian-Lithuanian coastal area via innovative tools and awareness raising.
Existing research infrastructure and support	The work will be linked to the following projects: The international project LAT LIT - “Estimation, monitoring and reduction of plastic pollutants in Latvian-Lithuanian coastal area via innovative tools and awareness-raising”; The national projects in cooperation with the Environmental Protection Agency – “An investigation on the amounts, type, possible sources and other characteristics of marine litter” and “The development of the methodological guidelines for marine litter monitoring”.
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