

Title of the doctorate theme	THE IMPACT OF METEOROLOGICAL CONDITIONS ON THE BEHAVIOR OF ORGANIC POLLUTANTS IN ESTUARINE SYSTEMS
Brief description of the topic	<p>Meteorological conditions like temperature, precipitation patterns, and atmospheric stability significantly affect the distribution of organic pollutants in aquatic environments. In northern regions, winter brings frequent sub-freezing temperatures, leading to temporary ice coverage in coastal estuaries. Snow and ice act as temporal reservoirs for pollutants, accumulating contaminants from atmospheric deposition and surface runoff. During spring thaw events of ice and snow cover, rising temperatures release stored pollutants, increasing concentrations in water bodies and posing ecological risks. In addition, snow and ice meltwater can transport pollutants from terrestrial sources into aquatic ecosystems through surface runoff and infiltration.</p> <p>This PhD project will investigate how changes in meteorological conditions affecting snow, rain, and ice cover dynamics influence the behaviour and fate of organic pollutants in estuarine environments across different geographic areas. By integrating field observations with controlled laboratory experiments, the project will shed light on the mechanisms governing the transport, transformation, and fate of organic pollutants in aquatic systems under varying meteorological conditions. Ultimately, the present PhD project holds significant implications for environmental management strategies aimed at mitigating the impacts of pollutant contamination in coastal ecosystems.</p>
Requirements for a candidate	Successful candidates must hold a master's degree in a relevant field (marine sciences, chemistry, biogeochemistry, geochemistry, or ecology). The applicant should be interested in and able to learn new research and analytical methods to accomplish the tasks. The candidate should be able to work independently and in an interdisciplinary team. Good English language skills are necessary. Working experience and knowledge in analytical or environmental chemistry are considered advantageous.
Existing research infrastructure and support	Marine Research Institute operates cutting-edge analytical and experimental facilities for observational and experimental research on biogeochemical element cycling and pollution in aquatic environments.
How the topic advances the research capacity of the Klaipeda University	Research in environmental chemistry focused on organic pollutants in aquatic ecosystems is an emerging field at KU. This proposed study aims to broaden this domain by establishing a more robust foundation. Through a combination of field and laboratory investigations, it will explore critical facets of marine ecosystem health, contribute to coastal management strategies, and strengthen KU's expertise in aquatic pollution, reinforcing the role in environmental chemical sciences.
Potential scientific supervisor	Dr. Mindaugas Žilius, mindaugas.zilius@ku.lt , https://scholar.google.lt/citations?user=E6jZxSEAAAAJ&hl=lt , https://orcid.org/0000-0002-2390-6636 , https://www.researchgate.net/profile/Mindaugas-Zilius
Potential scientific advisor	Scientific advisor(s) may be appointed based on the methodology selected for the research.

