Title of the doctorate theme	THE ROLE OF THE COASTAL LAGOON IN GREENHOUSE GAS EMISSION REGULATION
Brief description of the topic	The increase of the greenhouse gas (GHGs) in atmosphere causes heatwaves, unexpected floods and storms. Productive coastal lagoons can play an important role in sequestrating and removing carbon from the atmosphere. The aim of the thesis is to assess the role of the Curonian Lagoon (CL) to retain or emit GHGs. This dissertation will examinate the contribution of water, sediments and vegetation to regulating GHG emissions throughout CL t by seasonally assessing the GHG stocks and fluxes between the sediment-water-air interfaces. The spatial-temporal variation of GHG fluxes will be performed at the water-air interface across the river delta-sea gradient linking it to the organic carbon forms. Candidate will also study the role of pelagic processes within the CL acting as a buffer for sedimentary effluxes before reaching the atmosphere. Additionally, GHG emission will be also evaluated in the reed bed and its harvesting areas to assess the impact of this measure on climate change. This complex research from seasonal whole lagoon analysis to sediment feature based certain spot sediment-water-air study will show if we need to take additional management not only for eutrophication minimization but also to mitigate the role of Curonian lagoon for climate change. Additionally, this study will demonstrate if already existing eutrophication measure reed harvesting has the same positive outcomes in the perspective of climate change.
Requirements for a candidate	PhD student should have a good knowledge in biogeochemistry, estuarine ecology and practical skills in analytic chemistry. Preference will be given to candidates with GIS technical experience. At least B2 level of English is a prerequisite.
Existing research infrastructure and support	PhD student will join the interdisciplinary joined research team in which scientists have long-term experience in the research of N, P, C cycling, biogeochemistry processes, vegetation ecology, remote sensing in lagoon and lakes. All infrastructure as experimental set-up, equipment for sample collection and preparation to analyse GHG are at the Marine Research Institute of Klaipeda University. Work will be partly supported by the BUBBLE-C (The role of shallow coastal lagoon ecosystem in greenhouse gas emissions and its potential for climate change mitigation).
How the topic advances the research capacity of the Klaipeda University	PhD topic will strengthen Environmental Science especially in climate change context. Collaboration with international researchers will be extended networks focused on climate change. Moreover, the infrastructure of GHG topic will be strengthened which increase an ability to conduct long-term environmental monitoring. By advancing GHG research, KU enhances its scientific capacity, international visibility, and ability to address global climate challenges.
Potential scientific supervisor	Dr. Jolita Petkuvienė, Google Scholar: https://scholar.google.com/citations?user=2ohGZQMAAAAJ&hl=en ORCID: https://orcid.org/0000-0001-9015-9899
Potential scientific advisor	Scientific advisor(s) may be appointed based on the methodology selected for the research.