| Title of the doctorate theme | **ECOLOGICAL INTERACTION NETWORKS IN THE LAGOON-SEA TRANSITION** |
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| **Brief description of the topic** | Ecological networks depict the interactions among species within a community. The aim of the PhD project is to evaluate the ecological network characteristics along the transition from river to lagoon to sea, offering indicators for ecosystem services that contribute to societal goods and benefits.<br>Following the common methodology of the MARBEFES project employing the innovative ecological traits linking approach to construct the metabolism informed ecological networks of the Curonian lagoon and neighboring Baltic. The trophic guilds based on species' traits (body size, nutrition requirements, and foraging behavior) will be used to construct and calibrate the trophic model (e.g.ECOPATH/ECOSPACE) also addressing the passive and active migrations between the lagoon and coastal sea and to provide the spatially resolved indicators for ecosystem services. This topic implies intensive collaboration with other partners of HORIZON EUROPE MARBEFES project including the preparation of common publications. An applicant is also expected to gain skills in numerical data analysis and ecological modelling. |
| **Requirements for a candidate** | Basic background (MSc) in ecology (fishery/aquatic ecology preferable) along with data analysis skills while the experience with R language will count as an additional asset. Alternative qualifications suitable for this topic could cover mathematical modelling with FORTRAN/PYTHON programming skills |
| **Existing research infrastructure and support** | Over 25 years of experience of ECOPATH/ECOSIM model application. Developed hydrological and NPZD models will provide the forcing data for the ecological networks and support the development of the research hypothesis and data interpretation. Trophic relation specific trait tables needed to construct metabolism informed ecological networks are in preparation. The PhD project also could include the application of ZOOSCAN instrument to obtain additional data on fish fry and larvae. |
| **How the topic advances the research capacity of the Klaipeda University** | The proposed topic is expected to expand the existing competence in expert-based construction and calibration of ecological networks with an alternative approach employing the ecological traits of organisms and groups to construct informed ecological networks. Moreover, the proposed topic implies the integration of existing Curonian lagoon and coastal sea trophic models |
| **Potential scientific supervisor** | Dr. ArtūrasRazinkovas-Baziukas<br>https://scholar.google.com/citations?user=JuGw7al8dmsC&hl=en<br>Dr. Rasa Morkūnė https://scholar.google.com/citations?hl=en&user=-x6PlYgAAAAJ |
| **Potential scientific advisor** | Marco Scotti, Geomar, https://orcid.org/0000-0002-0775-6148<br>Marie C. Nordström, University of Helsinki, https://orcid.org/0000-0001-5763-1813 |