

Modeling the pathways and distribution of microplastics in the Eastern Baltic Sea

Summary

TalTech School of Science, Department of Marine Systems offers a 4-year PhD position in oceanography.

Research field:	Earth sciences
Supervisors:	Dr. Germo Väli Dr. Taavi Liblik
Availability:	This position is available.
Offered by:	School of Science Department of Marine Systems
Application deadline:	Applications are accepted between June 01, 2020 00:00 and July 03, 2020 23:59 (Europe/Zurich)

Description

The plastic pollution in the World Ocean including the Baltic Sea is among one of the biggest human-induced environmental stressors. Numerical simulations provide a perfect tool to estimate the possible pathways and deposition areas in the sea. The aim of the proposed PhD project is to study the distribution of microplastics in the Gulf of Finland (GoF) and Gulf of Riga (GoR) using the state-of-the-art hydrodynamic model GETM (General Estuarine Transport Model).

Responsibilities and tasks

- Within the project, the PhD student will prepare a high-resolution model setup for the GoR/GoF that is applicable for studying the pathways and possible accumulation areas in the region.
- Multi-year simulations will be performed at TalTech HPC (High-Performance Computing Centre).
- He/She will participate in monitoring cruises to collect data and use the existing datasets for validation of the model.

Qualifications

The applicants should fulfill the following requirements:

- The successful applicant is expected to have MSc. in Natural Sciences (Physics, Mathematics, or similar field)
- Basic programming skills and understanding (e.g. Python or MatLab) is required
- Knowledge about FORTRAN and Linux/Unix system is an advantage



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