The newly formed Polar Acoustics Lab in the Department of Marine Sciences at the University of Connecticut is recruiting MS and PhD students for the fall 2025 semester. The lab uses a combination of active acoustic observations (echosounders), in-situ measurements (CTDs, water sampling) and theoretical acoustic scattering models, to characterize changes occurring in high-latitude coastal waters. We are recruiting for two projects to start in fall 2025:

Exploring ice-ocean dynamics related to glacial retreat

Global warming is accelerating the retreat of glaciers across the globe. Some of the poorest understood processes associated with glacial retreat are those at the ice-ocean interface. This project will be part of a larger lab effort to study marine-terminating glacier dynamics. The PhD student will have the opportunity to collect acoustic data in the field and develop a research focus associated with glacial ablation dynamics through an acoustic lens. The student will help the lab develop a better understanding of dynamics and interconnected processes occurring in a climatically sensitive region, working with international collaborators.

The impact of low-oxygen conditions on predator-prey interactions

Hypoxic (low oxygen) and anoxic (devoid of oxygen) bottom waters are a growing concern in many coastal regions, impacting local ecosystems and economies. This project aims to understand the impact of low-oxygen bottom waters on fish distribution in the Baltic Sea, specifically exploring the potential separation of predator and prey populations. Building upon work done by the lab mapping out the extent of low oxygen waters, the PhD student will explore the local fish populations and dynamics through acoustic analysis. The student will develop any understanding of bio-physical interactions in a changing coastal environment and have the opportunity to work with collaborators in Sweden on this project.

A successful candidate would have a background in oceanography, acoustics or related field, such as physics, earth science, applied mathematics, civil/ environmental/ mechanical engineering. Candidates will ideally have a strong interest in field-based research and a familiarity with a coding language or willingness to develop coding skills. Experience with acoustics is a plus but not required! Students accepted into the UConn Marine Sciences program are guaranteed support for 2-5 years depending on the degree sought.

Interested students should email Dr. Weidner (e.weidner@uconn.edu) with the subject line "Prospective PhD student in Marine Sciences at UConn" and include their CV/resume, information on their background (education, coursework, relevant previous research or work experience), and a description of how their interests align with the lab's research (https://sites.google.com/view/elizabethweidner/).