

The chemistry of fear -Indirect effects of predation in aquatic ecosystems

Dept Biology

Lund University, Lund, Sweden

Application Deadline: 22 September 2023

Start date: 1 of November but flexible

Website: www.pelagial.se and www.lu.se

Qualifications

Master of science or similar in Biology, Chemistry, Physics, or related fields

Description

The overall goal of the PhD project is to gain new insights to the mechanisms and consequences of sensing and signaling in predator-prey interactions in aquatic foodwebs.

Prey organisms sense predators by chemical cues and respond by launching defensive traits such as vertical migration, bioluminescence, or toxin production, to avoid predation. The responses contribute to large scale phenomena such as harmful algal bloom formation and carbon sequestration. In the research group "Signals in the Sea" we isolate the chemical alarm-cues, determine their structure, and explore their mechanism of action from cellular to ecosystem level. You will use a combination of classical biological methods and state of the art techniques from chemistry and physics (LC-MS and GC-MS, AI driven microscopy, image-, and motion-analysis) to explore signaling systems and their consequences in aquatic ecology. The project typically involves a combination of field-, lab-, and computer based work. The successful candidate will be a devoted and curious explorer with a background in biology, physics, chemistry, or related fields and keen to interact with the vibrant multidisciplinary environment of the biology department at Lund University. Experience in plankton ecology, field work, programming, optics, academic writing, and/or image analysis are all meriting for the position.

Application Materials

On line application with instructions: <https://lu.varbi.com/what:job/jobID:652332/?lang=en>

Submit applications and further questions to:

On line application form: <https://lu.varbi.com/what:job/jobID:652332/?lang=en>

Contact Person: Erik Selander

Mailing Address: Sölvegatan 37, 223 62 Lund, Ssweden

Telephone: +46 766182627

E-mail: erik.selander@biol.lu.se