



## GÖTEBORGS UNIVERSITET

*Would you like to contribute to the development of a sustainable aquaculture industry in Scandinavia?*

**Masters student project available within "NORD-OSTRON", at the Department of Marine Ecology (Tjärnö), University of Gothenburg, Sweden**

**Project title:** *Improving larval quality in flat oyster aquaculture production: Chemical cues for settlement*

**Project background:** The Department of Marine Ecology at Tjärnö is managing "Nord-Ostron", a three year project within the EU Interreg programme (IVA Kattegat-Skagerrak). The project involves collaboration between Swedish, Norwegian and Danish universities, organizations and enterprises in the marine sector. The aim of the project is to develop trans-national models and tools among participating partners to support marine innovation and business development in the Skagerrak region. The project will develop and implement technologies for farming of the native oyster (*Ostrea edulis*). Nord-Ostron started 1<sup>st</sup> June 2009, and is ongoing until June 2012. The main goals of the "Nord-Ostron" project are to:

- a) promote collaboration within the three participating countries in order to promote shellfish aquaculture industry development;
- b) advance innovation within the aquaculture sector, including development of new technologies for oyster farming;
- c) develop communications and strategic plans with relevant actors regarding strategies and technologies for further shellfish industry growth.

Three specific needs have been identified in order to develop the oyster aquaculture industry (1) optimize hatchery production of juvenile oysters ("spat"); (2) identify and test techniques for grow-out of mature oysters in coastal waters, and (3) assess potential markets and develop supply chain management in order to maximize the benefits of production.

**Project description:** The master's student project focuses on (1) optimizing hatchery production of juvenile oysters. In the hatchery production of oyster spat, broodstock oysters are collected from natural populations and are encouraged to spawn by controlling temperature and nutrient availability. After spawning and fertilization in adult oysters, larvae are released from the adults and after a short period in the water column, larvae develop a foot and aim to 'settle' by attaching to a substrate. It is possible to experiment with different methods of inducing settlement in larvae. After 10-14 days of cultivation, the larvae are morphologically and physiologically capable of attaching to the substrate and undergoing metamorphosis into juveniles. However, it is advantageous to have larvae settle without a substrate or "cultch". Catecholamines are often employed to induce "cultchless" settlement, and this student project will focus exclusively on experiments with use of epinephrine to induce settlement in *Ostrea edulis*. Once settled, the larvae, now referred to as spat, are generally transferred to nursery facilities until they are ready to be released for cultivation in open water at aquaculture grow-out sites.

**Qualifications:** We are looking for applicants who possess a bachelor's degree in biology, natural resources management or marine ecology.

**Additional information:** These positions are based at the Department of Marine Ecology at the University of Gothenburg (Tjärnö). The project can provide some support for travel abroad and collaboration with other university partners, including the Danish Shellfish Center and University of Life Sciences in Ås, Norway. If you are interested, please contact the project leader Susanne Lindegarth, [susanne.lindegarth@marecol.gu.se](mailto:susanne.lindegarth@marecol.gu.se), tel. +(46) 526-68678, or +(46) 76 1145757.