GÖTEBORGS UNIVERSITET

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

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

PROJECT TITLE: *Improving the success of oyster aquaculture through selective breeding: The importance of genetic selection and family lines*

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 1st 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: This master's student project focuses on developing a program for selective breeding in the European flat oyster, *Ostrea edulis*. Selective breeding (or artificial selection) is the process of breeding plants and animals for particular genetic traits in order to increase robustness and commercial viability of a domesticated species. A key factor for the expansion of an oyster farming industry in Scandinavia depends both on the ability to sucessfully produce juvenile oysters ("spat") in hatcheries, and to select for specific traits in order to increase productivity of subsequent generations. Genetic gains are possible for increasing productivity in, among other characteristics, growth rates, appearance (size, shape, colour), and disease resistance. This project will focus on design specifications for a selective breeding program, and will require a good knowledge of molecular genetics, gene mapping and genomics.

Qualifications: We are looking for applicants who posess a batchelor'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, tel. +(46) 526-68678, or +46) 76 1145757.