

**MSD scholarship: Stock structure and responses to fishing and environmental change in the European flat Oyster (*O.edulis*) - Start date January to March 2019**

**Background**

European Oysters (*Ostrea edulis*) are an important species once found in expansive beds throughout the UK and the North sea. Due to exploitation and multiple environmental stressors it has declined by over 90% from its former range. The species is still held in high regard in coastal communities and has remaining strongholds in several traditional oyster fishing areas. This Masters by Research will investigate the demography of the native oyster population in an Essex Marine Conservation Zone. Demographic data will be used to build population models that can help predict how this important species will respond to perturbations such as habitat availability, ocean warming and fishing activity.

**Methods**

Native oysters were designated as a feature of conservation importance in the Essex estuaries in 2013. The feature was designated in the knowledge that recovery was required and as such was assigned recovery conservation advice by Natural England. Building on unique field based methods at the University of Essex; the candidate can undertake field based studies of reproduction, growth and survival probabilities of oysters at sea and use this data to parameterise population models. For building models there are a number of tools that can be used from Physiologically structured biomass models (sensu De Roos & Persson, Oikos, 2001) to Matrix population models (Caswell, 2001) or Integral Projection Models (Merow, Methods in Ecology & Evolution, 2014).

There is adequate scope for the successful candidate to explore new questions, methods and approaches during their study. Training in the approaches to take will be provided.

**Candidate**

We are looking for candidate with an interest in quantitative marine and conservation biology, mathematical biology or computing sciences. An active interest in working in the environmental sciences would be beneficial.

**School of Biological Sciences @ Essex and the Supervisor team**

The student will join and exciting Ecology and Environmental Microbiology Sciences research group at the University of Essex and have access to PGT/PGR training courses offered both in the School of Biological Sciences and across campus. The project is supervised by Dr Tom Cameron (Biology @ Essex) and Rebecca Korda (Natural England) with co-supervision from Professor Edd Codling (Maths @ Essex), Dr Tobias van Kooten (IMARES, Netherlands) and Rob Dyer (Kent & Essex IFCA) where necessary. The successful candidate will join a dynamic PGR research environment including NERC EnvEast PhD students working on marine ecology, oyster ecology and fisheries modelling.

**Funding**

This MSD opportunity comes with a Fee Waiver up to the value of Home/EU fees (£4700) funded by Natural England. In addition the student will receive funding to cover the costs of computing needs (e.g. a new laptop), travel for training and stakeholder meetings and a £1000 one off contribution to living costs (funded by Natural England and Kent & Essex IFCA). As a registered Masters candidate from the UK or EU you would be eligible for a postgraduate loan to cover your living costs.

See this link here <https://www1.essex.ac.uk/fees-and-funding/masters/loans/default.aspx>

**Please note:** International students need to have additional funding to cover the difference in tuition fees which is £11,815.00, evidence will be requested that you have these additional funds.

**Entry requirements and application procedures**

Applications should be submitted electronically by the **16th November** see here for details <https://www.essex.ac.uk/pgapply/enter.aspx>

Additional questions and queries about the studentship can be addressed to Dr Tom Cameron (tcameron@essex.ac.uk; [www.ecoevoenviro.wordpress.com](http://www.ecoevoenviro.wordpress.com)). For general information about the School of Biological Sciences at the University please visit our webpages <http://www.essex.ac.uk/bs/>.

**The University of Essex**

In the recent Research Excellence Framework 77% of research at the University of Essex research is 'world leading' or 'internationally excellent' ([REF 2014](http://www.essex.ac.uk/research/ref/)).We offer world-class supervision and training opportunities and our research students work at the heart of an internationally-acknowledged and well-connected research community. In the 2013 Postgraduate Research Experience Survey, 84% of respondents said that they were satisfied with the quality of their research degree. At Essex we win awards for our pioneering [student support](http://www.essex.ac.uk/life/student_support/) schemes. We are the most recent winners of the prestigious *Times Higher Education* award for Outstanding Support for Students. Essex is a genuine global community. With more than 130 countries represented within our student body, and 40% of our students from overseas, we are one of the most internationally-diverse universities in the UK.