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Orientation: Sustainable use of marine resources
Specialization Area: Aquaculture
Research Line: 2.8 Marine ecology and cultures



PhD project: Quorum sensing in *Ulva ohnoi* (Ulvales, Chlorophyta): implications for its culture in Integrated Multi-Trophic Aquaculture systems

Supervisors: Dr. Javier Cremades Ugarte (University of a Coruña)

Summary: Green macroalgae from genus *Ulva* Linnaeus, due to their peculiar biological characteristics show great potential as applied biofilters in integrated multi-trophic aquaculture systems (IMTA).

Although numerous researches were made at different scales (laboratory, pilot plant, industrial scale) to evaluate the efficiency of *Ulva* species in IMTA cultures, all of them are mostly focused on the growth and productivity rates, the nutrients uptake and the chemical composition of the crop. Nevertheless, population behavior of macroalgae and their productivity and profitability implications do not get the same consideration. A non-studied characteristic could be the potential capacity of these organisms to inter-communicate when they live altogether, mostly in high densities, and its culture implications.

The aim of this research is to confirm the existence of a communication system among individuals of *Ulva ohnoi*, to describe in detail the mechanism of this behavior and to evaluate their implications in the enhancement of culture efficiency of these species in IMTA systems.

