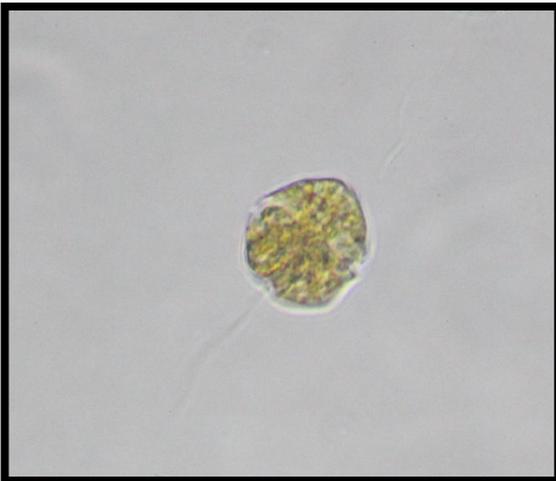


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**PhD project: INTERACTIONS BETWEEN TOXIC PHYTOPLANKTON AND OTHER ORGANISMS OF THE BIOLOGICAL COMMUNITY OF THE RÍA DE VIGO**

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Dra. Eva Teira González (Universidade de Vigo)

**Summary:** Toxic phytoplankton, like the rest of the microalgae, maintains close relationships with other organisms present in the areas it inhabits. These relationships can be of a different nature and involve both microorganisms and macroorganisms. Some interactions are based on an exchange of compounds necessary for the metabolism of the different taxonomic groups. Many species that form harmful algal blooms (HABs) need an exogenous supply of B vitamins, which reach the marine environment or from non-native sources or through bacterial biosynthesis. Thus, the presence of B group vitamin-producing bacteria could be a key factor in HAB formation. Other interactions are due to the release of growth-inhibiting substances or algaecides by other organisms. A lower appearance of HABs produced by dinoflagellates has been observed in areas dominated by *Zostera marina*, which could be linked to the production of toxic substances for dinoflagellates both by the phanerogams themselves and by the large number of bacteria that live in seagrass beds. In this thesis it is proposed to study these interactions between toxic phytoplankton species and other organisms with which they interact in the Ría de Vigo by monitoring HABs produced by the toxic dinoflagellate *Alexandrium minutum*. The objectives of the thesis are to describe the microbiome associated with the proliferation of this species, to identify the existing interactions between *A. minutum* and bacteria, to verify if these interactions are based on the exchange of group B vitamins and to study the effect of *Z. marina* beds in the appearance and growth of *A. minutum*.