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Orientation: Ocean Observation and Global Change
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PhD project: **The effects of climate change on reproduction and recruitment success of the acorn barnacle *Semibalanus balanoides* at its southernmost European distribution limit (Galicia, Spain)**

Supervisors: Dr. Elsa Vázquez Otero (University of Vigo)
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Summary: The intertidal zone is a model system for examining the effects of climate change both because of the rapidity of its response, and because the rich historical record. An intertidal rocky shore organism widely used for species distribution surveys is the acorn barnacle *Semibalanus balanoides* (Crustacea, Cirripedia), which provides an excellent study organism for being a common, widely-distributed member of boreo-artic communities whose populations are easily manipulated in the field and for which there is a wide literature on historical distributions and physiology. Since the southernmost European distribution limit of *S. balanoides* is set in Galicia, there is a particular interest in understanding the mechanisms that govern its distribution in the area and the effect that climate change can produce on their populations, as a model to understand the effect of global change on population dynamics of intertidal communities. Temperature-dependent variations in reproduction has been shown to cause year to year fluctuations on geographic limits of the species so it is expected that temperature change would severely affect *S. balanoides* reproduction and recruitment success at its southernmost European distribution limit. The overall aims of this PhD dissertation is to determine the effects of climate change on *Semibalanus balanoides,* as a model organism of rocky intertidal communities, and their biogeographic boundaries in the northwest of the Iberian Peninsula, as well as to investigate the mechanisms governing its response to climate, in order to forecast effects of climate change on rocky shore organisms.