

## Abstract

### Impact of Nanomaterials in Marine Ecosystems Through the Study of the Metabolic Response of *Vibrio fischeri* as a Model Microorganism

The presence of emerging contaminants, specifically nanomaterials in the environment, represent a potential risk for the human health and the environment itself. The nanomaterials that will be studied on in this project will be the gold nanoparticles (AuNPs). The situation with nanomaterials is complicated, since these, by their structure, are designed to have amplified properties. This means that nanomaterials are practically impossible to trace and, remove from the ecosystem. This project works specifically with water, but the problem occurs in all parts of the environment. It has been decided to use a bioindicator to study the impact that these materials can have. In this case, the marine bacterium *Vibrio fischeri* will be used as a model organism, as it is a well-studied organism (all its metabolic pathways are known) and is used for ecotoxicity studies. The purpose of the project is to understand about the mechanism of action of these pollutants with our model organism.