

Potential MSc topic in Theoretical Ecology Group, University of Bergen:

**Decision-making in marine animals (up to 2 master projects)**

Everything that is alive, is so because it is the current endpoint of a four billion year-long unbroken line of reproduction. Therefore, every aspect of a living being has been evolved to serve reproduction, or to serve behaviour and development that lead to future reproduction.

In the Theoretical Ecology Group, we have studied how animals make decisions. Most of the work has been on vertebrates, particularly Atlantic salmon, but we now also work on describing bodily mechanisms of decision-making in copepods.

There is now an opening for 1-2 master thesis projects under supervision of Jarl Giske. The study organism must be already well-studied, so that it is possible to review studies of their genomes, sensing, nervous system, as well as of their behavioural repertoires. Examples can be some fish species, a hermit crab or another well-studied crustacean, or another animal where at least the nervous system is described and can be linked to many behavioural studies. The job is to find, read and analyse those studies for this purpose.

As we cannot ask a crustacean how it is to be that type of crustacean, the thesis work is to review what is known about what it is to be that kind of animal, if it is something at all. However, there is probably not enough known about the effects of genes, hormones and the nervous system to describe that animal from its inside. These studies are like illuminating a dark tunnel from the entrance. We will therefore also need many studies of the animal's behaviour, which we can use to illuminate the tunnel from the exit side. Still, we need help from other researchers who have studied other kinds of minds. Hence, in these theses the aim is to review the literature to reveal what is known about this animal's mind and compare these results with studies of other animal's minds, in the hope of understanding more what it is like to be that kind of animal. The first job is to select the animal, which we can discuss.