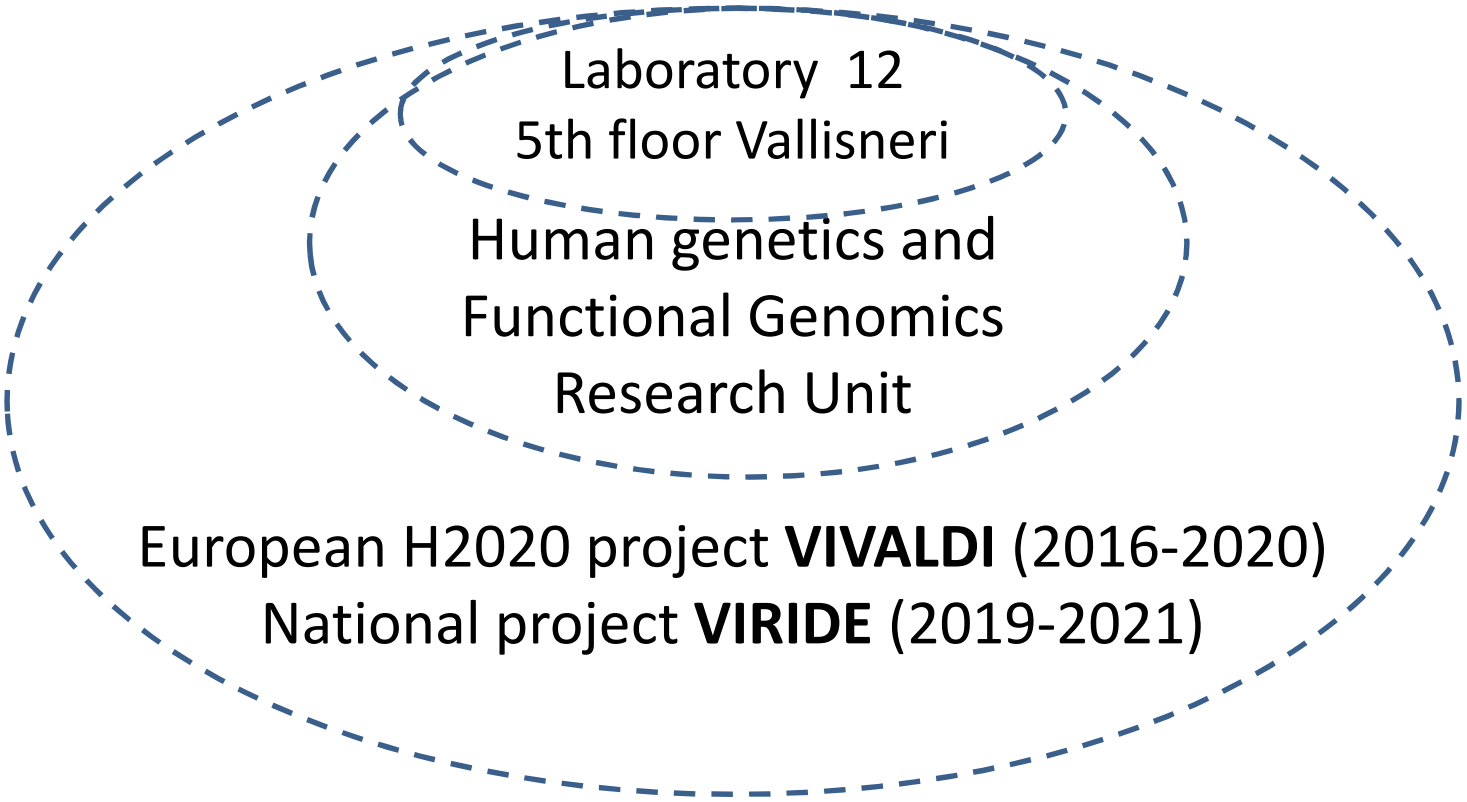
Internships

for the Master Degree in Industrial Biotechnologies

11 April 2019 **h 15:00-15:15** – Aula C, ground floor, Fiore di Botta



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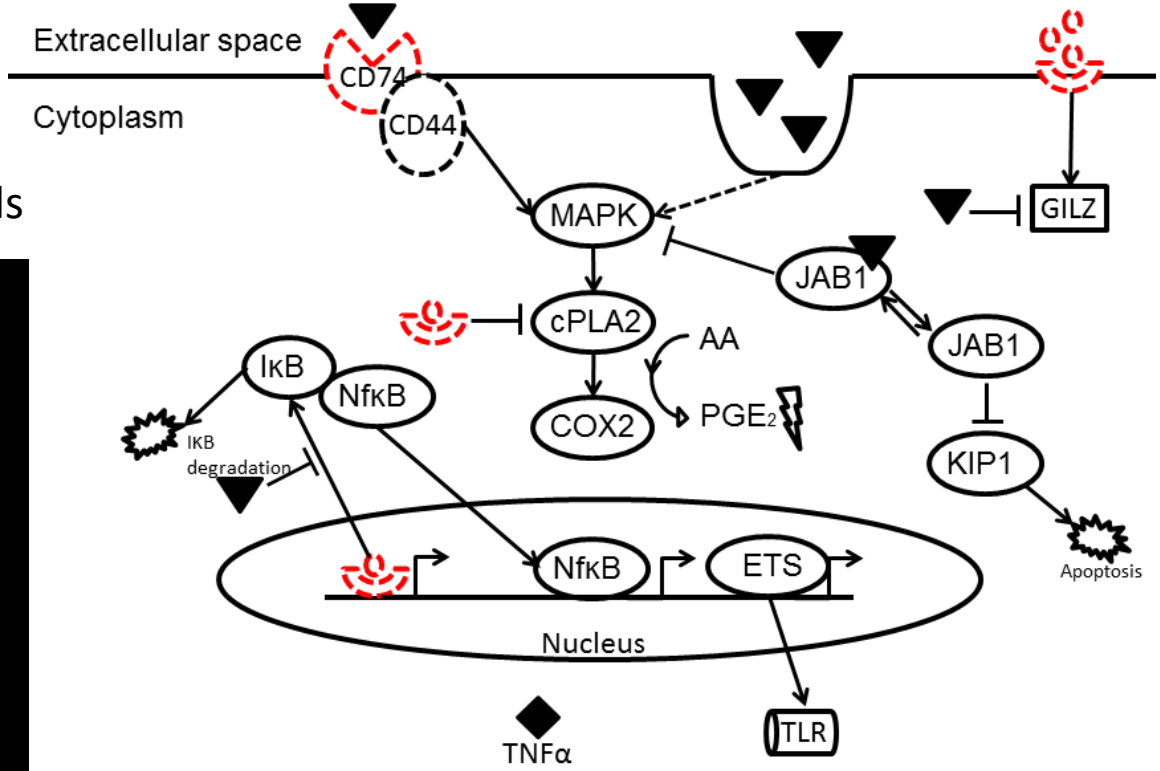
Macrophage Migration Inhibitory factor

MgMIF phylogenesis, gene expression analysis, functional roles

- MIF, a key cytokine which modulates many pro-/anti-inflammatory pathways in vertebrates
- What does a “cytokine” do in organisms lacking adaptive immunity?
- We aim to improve the knowledge on the MIF gene family in mussels (*Mytilus* spp.).

Approaches and techniques:

- Work with marine bivalves
- DNA/RNA purification, qPCR
- recombinant protein production
- functional assays with bivalve cells



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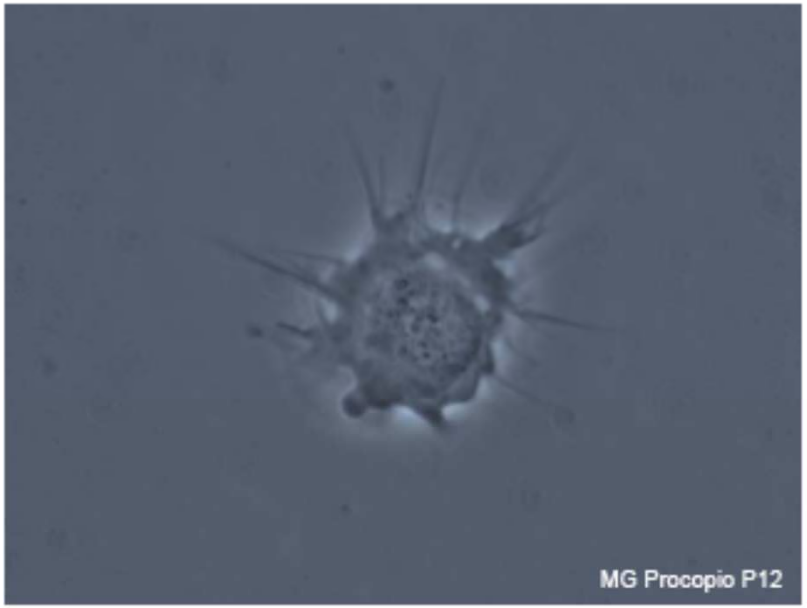

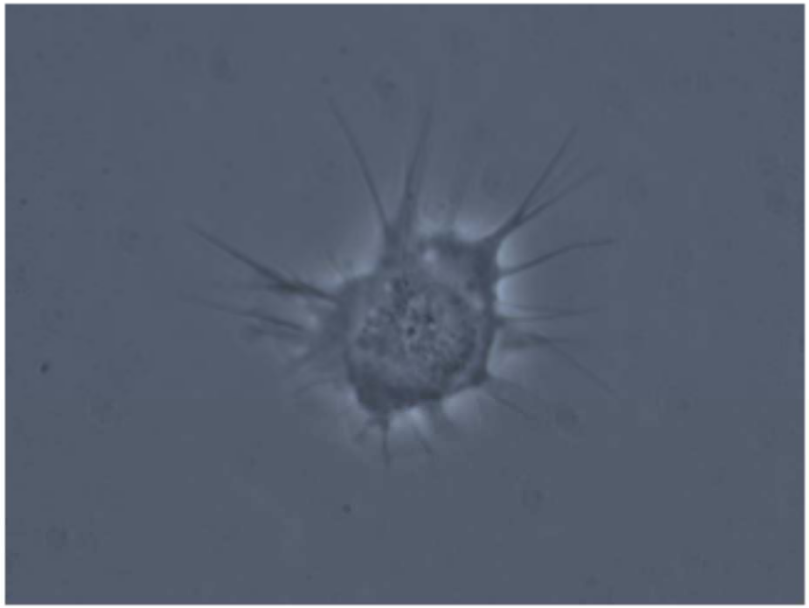

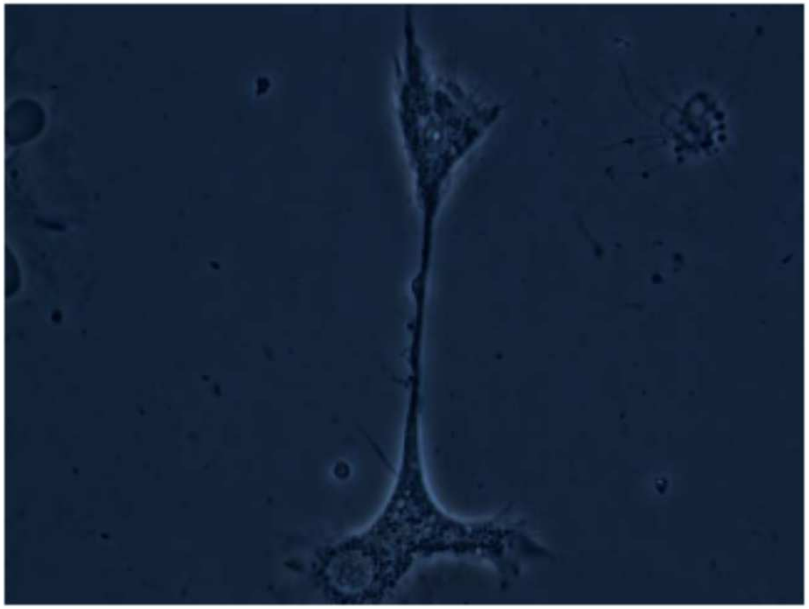

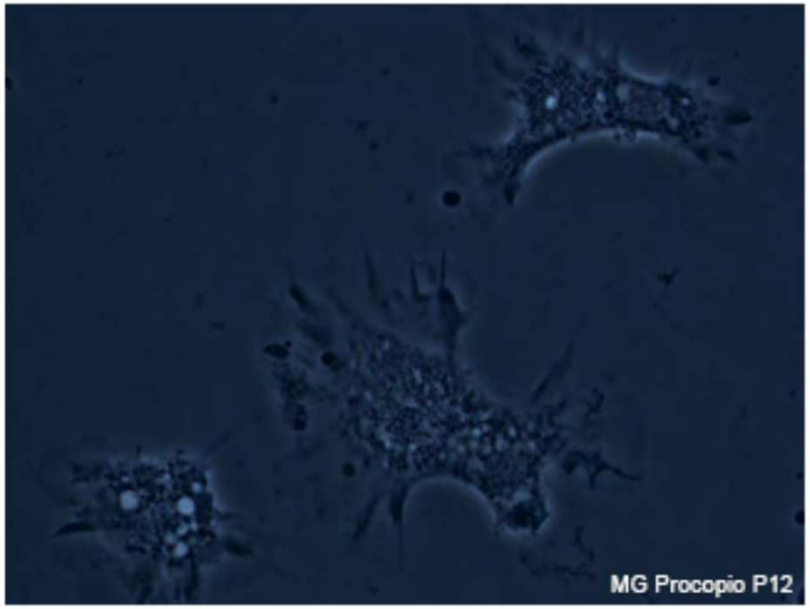

Host-pathogen interactions
The RNA virosphere in marine bivalves

- Viruses are everywhere and play fundamental role in each biological communities.

- Viral metagenomics on bivalves is at its beginnings. The study of viruses associated to environmental and biological samples reveals an unprecedented level of biodiversity.
- The work aims to describe viral/host pathogen interactions at molecular level (RNA, sncRNA, protein).

Approaches and techniques:

- HTS dataset production and analysis
- RNA-seq library preparation
- Virus genome assembly and phylogenetics

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Oyster herpes killing scores of bivalves around the world

The virus can't be transmitted to humans but has a nearly 100% mortality rate among Pacific oysters. Ostreid herpesvirus-1 microvariant, which is also called Pacific Oyster Mortality Syndrome (POMS), has been known to wipe out 10 million mollusks in three days and poses a threat to the global oyster industry, according to a report.

BY VICTORIA TAYLOR Follow / NEW YORK DAILY NEWS / Tuesday, December 16, 2014, 6:18 PM A A A

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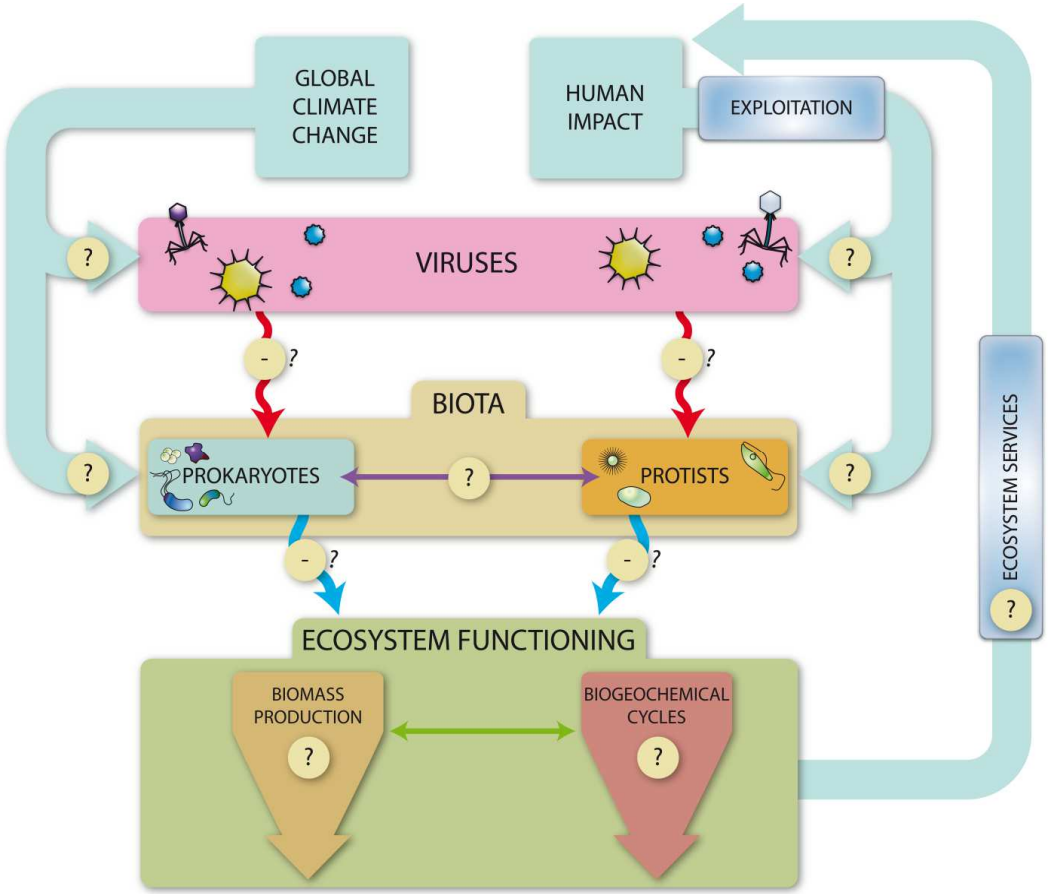
Looking into the dark matter of seas and oceans

Microorganism assemblages and their functional roles (VIRIDE)

- The deep sea is the widest and less known biome on Earth and deep sea viruses can greatly influence marine biodiversity and food web structure (ocean production, biogeochemical cycles, and human welfare).
- The work aims to understand viral diversity as well as current impacts on deep-sea biodiversity and ecosystem functioning

Approaches and techniques:

- Protocol setting up
- Viral DNA and RNA extraction
- Library preparation/analysis
- HTS, metagenomics, bioinformatics
- Virus identity and host assignment



https://www.carbonbrief.org/beneath-the-waves-how-the-deep-oceans-have-continued-to-warm-over-the-past-decade