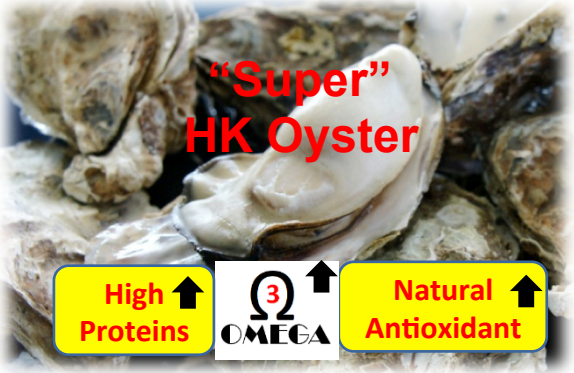
Project 5
Machine Learning for Selective Breeding

This is our highly ambitious and immediate future project, especially after our hatchery was setup and running. We have already secured over 3 Million HKD from local oyster industry for this project. Here, we would like to develop big data and machine learning based tools for selective breeding of oysters to reduce the impact of winter mass mortality. First, we will use integrative “omics”, marker assisted selection (MAS), bioinformatics, big data and machine learning for rapid selection of “supreme” strains with traits for high salinity tolerance and superior meat quality. The selected strains will then be subjected to typical selective breeding programs in subsequent projects. Besides, such an integration of multiple data sets to assess environmental history and meat quality of edible oysters is a first step towards development of “oyster quality analyzer” using smartphones.



TO SURIVIVE WINTER MASS MORTALITY

A novel knowledge exchange research project with local oyster industry