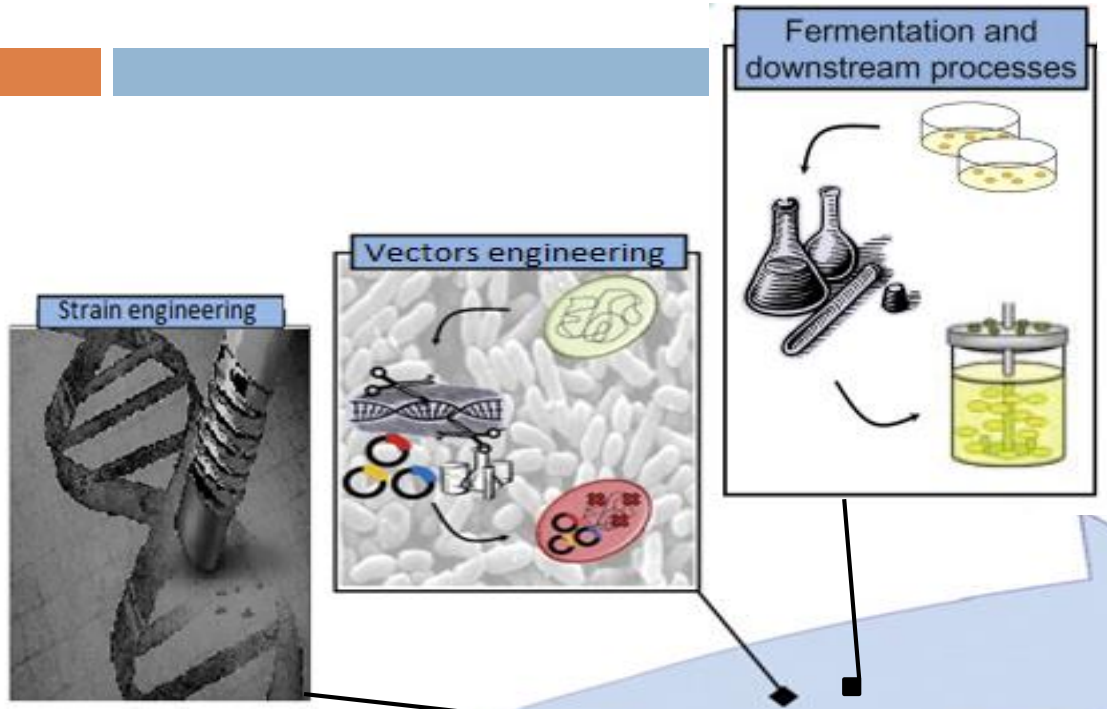
Geno-proteomic approaches to engineer *Pseudoalteromonas haloplanktis* TAC125 as a system for the production of recombinant proteins

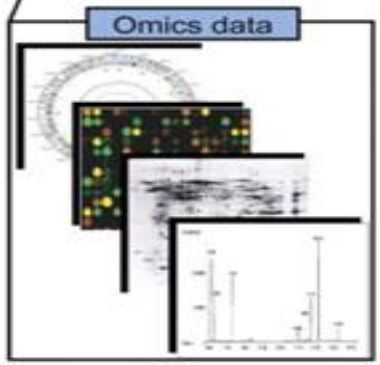


Objectives of this PhD project

- development of new psychrophilic expression vectors
- optimization of the already existing ones
- strain improvement by genetic approaches
- set up of a suitable recombinant proteins production process

Improved strain/process

Wild type strain



- Information obtained from differential transcriptomics and proteomics analysis could be useful for the achievement of these objectives.

Candidate: **Concetta Lauro**
Tutor: **Prof.ssa Maria Luisa Tutino**

	Timescale (months)										
Objectives	3	6	9	12	15	18	24	27	30	33	36
Engineering of the psychrophilic expression vectors											
	Improvement of the already existing expression vectors										
			Identification and characterization of new psychrophilic regulated promoters								
				Use of selected regulated promoters for the set up of novel psychrophilic gene-expression systems and their use							
Strain engineering of *P. haloplanktis* TAC125											
	Identification of potential targets and enhanced strains construction										
			Characterization of the obtained enhanced strains								
					Application of the improved strains for production of proteins of biotechnological interest						
Bioprocess development											
							Definition of the best production condition				
							Scale-up in automatic bioreactor				
							Establishment of a fed-batch strategy				

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