



Ifremer

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### 2005-.....

Director of the laboratory Physiology and Biotechnology of Algae.

Microalgae offer a vital source of nutrients for the aquaculture industry. While they are responsible for blooms that can have serious consequences in the environment (anoxia and toxins) they are also potentially a source of new molecules, whether of natural origin or generated through recombinant technology. But the physiology of microalgae is as yet uncharted territory, and greater understanding of the hugely diverse mechanisms exhibited by this group is key to making best use of them. Findings about the main metabolic pathways, and how these are affected by environmental variation – at the level of the cell as well as the whole population – would provide the know-how needed to redirect and control the development of cultures to achieve these objectives.

Physiology is therefore the pivot for a portfolio of projects which covers every aspect of algal responses to environment, the overall aim being to:

- Optimise and stabilise the nutritional quality of algae used in aquaculture.
- Produce molecules of interest
- Develop a multi-purpose platform for expression of recombinant molecules

### 2001-2004

Researcher at the "Institut Français de Recherche et d'Exploitation de la Mer (IFREMER)" in the Laboratory of Production and Biotechnology of Algae. In charge of the Biology Unit. Our main interest is the application of molecular biology tools in the study of algae. More specifically, transcribed phenotypes as a response to metabolic variations as well as the development of a "cell factory tool".

### 1992-2001

Researcher at the "Institut Français de Recherche et d'Exploitation de la Mer (IFREMER)" in the "unité mixte de recherche 219 DRIM (Défense et Résistance chez les Invertébrés Marins) Université de Montpellier II, IFREMER/CNRS" laboratory. Characterisation of the defense mechanisms of commercially important marine bivalves aimed at the control of diseases. Genetic transformation as basic knowledge and understanding of gene regulation mechanisms at the developmental level, elucidation of defence mechanisms, and the pattern of reproduction. As such I was charged with adapting transfection systems, *in vitro* for bivalve primary cell cultures (lipofection) and *in vivo* for bivalve embryos (microinjection and biolistic). This allowed me to identify, clone and sequence functional promoters and integration sequences (i.e. transposons...) as well as various bivalve genes.

Habilitation à Diriger les Recherches (HDR) Université de Nantes

Ph.D. Oceanology Ecole Pratique des Hautes Etudes Paris Sorbonne., Molecular biology.

(M.S.) Marine Biology Ecole Pratique des Hautes Etudes Paris Sorbonne.

Board Member of:

Conseil scientifique BioGenOuest

Conseil scientifique of Algenics SAS (President)

Comité de Pilotage Algasud