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### **Education**

1991: Engineer in Food-Processing - ONIRIS (ex-ENITIAA) Nantes

1992: Engineer in Environmental Health - EHESP (ex-ENSP) Rennes

1997: PhD in Process Engineering - GEPEA, University of Nantes – Saint-Nazaire

*Title:* Valorization of marine microalgae. Concentration and purification by membrane processes of pigments extracted from *Haslea ostrearia*.

### **Work experience and current position**

1992-1993: Food-Processing Engineer, ADRIA Quimper

Since 1998: Associate Professor (CNU 62) in Process Engineering applied to Marine Biotechnologies, UBS

- Member of the GEPEA, UMR CNRS 6144, University of Nantes
- Associate member of the LBCM, UBS

### **Summary of research activities and skills**

Extraction of bioactive molecules from marine macroalgae. Seaweeds of the Brittany coasts are a very important and diversified natural resource. They have been collected for centuries for an agricultural use (fertilizers, amendments) or industrial (alginates...). Since a few years, this exploitation diversifies according to the properties highlighted to certain species. Food-processing industry, pharmacy, cosmetics, dietetics, medicine are sectors which will use more and more substances extracted from this raw material. At the same time, the proliferation of seaweeds along the beaches represents a real economic constraint for the affected municipalities.

My research activity aims at valuing by soft technologies (enzymatic hydrolysis, membrane separation processes, eco-extraction) this biomass while integrating the variability of the raw material.

Keywords: Separation process, Extraction, Biorefining, Marine macroalgae, Bioactive molecules

### **Summary of teaching activities**

Licence Pro “Cosmetics” (UFR SSI Vannes): Separation and Extraction processes, Forming ingredients

Master “Biotechnologies” (UFR SSI Lorient) : Treatments of water, Marine processes

Licence Pro “Waste treatment processes” (IUT Pontivy): Physico-chemical treatments

### **Pedagogic and administrative duties**

Responsible of the Licence Pro “Biotechnologies and Bioindustries”, UBS

### **5 publications**

1. L. Vandanjon, L. Vallet, T. Le Glatin, P. Délérís, R. Baron, P. Bourseau, J. Dumay (2016). Valorization of the macroalga *Sargassum muticum* by enzymatic hydrolysis. Interest of surfactants to improve the extraction of phlorotannins and polysaccharides. *Journal of Marine Biology and Aquaculture*, 2, (1), pp 1-7.

2. A. Tanniou, L. Vandanjon, O. Goncalves, N. Kervarec, V. Stiger (2015). Rapid geographical differentiation of a European spread brown algae: *Sargassum muticum* using HRMAS NMR and Fourier-Transform Infrared spectroscopy, *Talanta*, 132, pp 451-456

3. G. Bedoux, K. Hardouin, C. Marty, L. Taupin, L. Vandanjon, N. Bourgougnon (2014). Chemical characterization and photoprotective activity measurement of extracts from the red macroalga *Solieria chordalis*, *Botanica Marina*, 57, 4, pp 291-301

4. A.Tanniou, L.Vandanjon, M.Incera, E.Serrano Leon, V.Husa, J.Le Grand, J.L.Nicolas, N.Poupart, N.Kervarec, A.Engelen, R.Walsh, F.Guerard, N.Bourgougnon, V.Stiger (2014). Assessment of the spatial variability of phenolic contents and associated bioactivities in the invasive alga *Sargassum muticum* sampled along its European range from Norway to Portugal, *Journal of Applied Phycology*, 26, pp 1215-1230

5. A.Tanniou, E.Serrano, L. Vandanjon, E.Ibanez, J.Mendiola, S.Cerantola, N.Kervarec, S.La Barre, L.Marchal, V.Stiger (2013). Green improved processes to extract bioactive phenolic compounds from brown macroalgae using *Sargassum muticum* as model, *Talanta*, vol. 104, pp 44-52.