

**Research Lecturer in analytical chemistry – Natural products - Seaweeds**

Email: [gilles.bedoux@univ-ubs.fr](mailto:gilles.bedoux@univ-ubs.fr)

PhD in Life sciences (2005), Université de Bretagne-Sud

“Structural analysis of *Pseudomonas aeruginosa* serogroup O5 lipopolysaccharide”

Vice President in charge of “Commission de la Formation et de la Vie Universitaire” - University South Brittany

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**Current position**

- **Research Lecturer** (Maître de Conférences) – CNU 31 – Analytical chemistry  
Faculty of Sciences and Engineering Sciences (UFR SSI)  
Research Lab : Marine Biotechnology and Chemistry Lab (LBCM)  
Assignment Institution: University South Brittany (Université Bretagne Sud)

**Scientific skills and research activities**

- **Analytical chemistry** : Structural analysis of seaweed metabolites – biological activities  
chemical structure–biological function relationships & eco-extraction
- **Chemical characterization of seaweed metabolites**: Polysaccharide and Oligosaccharide, proteins and peptides,  
mycosporine like amino-acids
- **Analytical methods** : Extraction & fractionation - concentration - Chromatography – HPLC – HPAEC – HPSEC –  
CPC – Mass spectrometry – NMR

**Teaching activities**

- **Analytical chemistry** : general chemistry and chromatography – Formulation of cosmetics

**Award and Grants**

- **Research Allowance PEDR A**
- **Project coordinator**: Project EVHELCAAP Collaborative Project of Brittany - France (2016-2020) French company BIOARMOR ; PROCESSALG (2014-2017) (ARED thesis) Collaborative Project with three french companies
- **International Project partner** : ECOS NORD Mexico (2015-2018) "Up grading of macroalgae by combining innovative biotechnologies and process for human health"
- **National Project partner** : Project OSEO ISI ULVANS "Enzymatic hydrolysis of marine invasive seaweeds and upgrading in human animal and vegetal health" ; Project FUI VALORALG "Enzymatic hydrolysis of marine invasive seaweeds for upgrading in human, animal and vegetal health, cosmetics"

**ACL 1.** A Abdul Malik, S.A., **Bedoux, G.**, Robledo, D., García-Maldonado, J.Q., Freile-Pelegrián, Y., Bourgougnon, N. 2020. Chemical defense by allelopathic active metabolites of *Halymenia floresii* (Rhodophyta) against biofouling. *J. Appl. Phycol.*, 10.1007/s10811-020-02094-4.

**ACL 2.** Pliego-Cortés, H., Wijesekara, I., Lang, M., Bourgougnon, N., **Bedoux, G.** 2019. Current knowledge and challenges in extraction, characterization and bioactivity of seaweed protein and seaweed-derived proteins. *Adv. Bot. Res.*, <https://doi.org/10.1016/bs.abr.2019.11.008>.

**ACL 3.** Pliego-Cortés, H., **Bedoux, G.**, Boulho, R., Taupin, L., Freile-Pelegrián, Y., Bourgougnon, N., Robledo, D. 2019. Stress tolerance and photoadaptation to solar radiation in *Rhodymenia pseudopalmeta* (Rhodophyta) through mycosporine-like amino acids, phenolic compounds, and pigments in an Integrated Multi-Tropic Aquaculture system. *Algal Research*, 41: 101542.

**ACL 4.** **Bedoux, G.**, Pliego-Cortés, H., Dufau, C., Hardouin, K., Boulho, R., Freile-Pelegrián, Y., Robledo, D., Bourgougnon, N. 2019. Production and properties of Mycosporine-like Amino Acids isolated from seaweeds. *Adv. Bot. Res.*, <https://doi.org/10.1016/bs.abr.2019.11.004>.

**ACL 5.** Lalegerie, F., Lajili, S., **Bedoux, G.**, Taupin, L., Stiger-Pouvreau, V., Connan, S. 2019. Photoprotective compounds in red macroalgae from Brittany: a large diversity in mycosporine-like amino acids (MAAs). *Marine Environmental Research*, 147: 37-48.

**ACL 6.** Lang, M., Ferron, P.J., Bursztyka, J., Montjarret, A., Duteil, E., Bazire, A., **Bedoux, G.** 2019. Evaluation of immunomodulatory activities of essential oils by high content analysis. *Journal of Biotechnology*, 303: 65–71.

**ACL 7.** Fournière, M., Latire, T., Lang, M., Terme, N., Bourgougnon, N., **Bedoux, G.** 2019. Production of Active Poly- and Oligosaccharidic Fractions from *Ulva* sp. by Combining Enzyme-Assisted Extraction (EAE) and Depolymerization. *Metabolites*, 9: 182-205.

**ACL 8.** **Bedoux, G.**, Caamal-Fuentes, E., Boulho, R., Marty, C., Bourgougnon, N., Freile-Pelegrián, Y., Robledo, D. 2017. Antiviral and cytotoxic activities of polysaccharides extracted from four tropical seaweed species. *Natural Product Communications*, 12: 807-811.

- ACL 9.** Boulho, R., Marty, C., Freile-Peigrín, Y., Robledo, D., Bourgougnon, N., **Bedoux, G.** 2017. Antiherpetic (HSV-1) activity of carrageenans from the red seaweed *Solieria chordalis* (Rhodophyta, Gigartinales) extracted by Microwave Assisted Extraction (MAE). *J. Appl. Phycol.* 29 : 2219–2228.
- ACL 10.** Boulho, R., Le Roux, J., Le Quémener, C., Audo, G., Bourgougnon, N., **Bedoux, G.** 2017. Fractionation of UV-B absorbing molecules and of free radical scavenging compounds from *Solieria chordalis* by using Centrifugal Partition Chromatography. *Phytochem. Lett.*, <http://dx.doi.org/10.1016/j.phytol.2017.03.010>.
- ACL 11.** Terme, N., Boulho, R., Kendel, M., Kucma, J.P., Wielgosz-Collin, G., Bourgougnon, N., **Bedoux, G.** 2017. Selective extraction of lipid classes from *Solieria chordalis* and *Sargassum muticum* using supercritical carbon dioxide and conventional solid-liquid methods. *J. Appl. Phycol.*, 29: 2513–2519.
- ACL 12.** Wijesekara, I., Lang, M., Marty, C., Gemin, M.P., Boulho, R., Douzenel, P., **Bedoux, G.**, Bourgougnon, N. 2017. Different extraction procedures and analysis of protein from *Ulva* sp. in Brittany, France. *J. Appl. Phycol.*, 29: 2503–2511.
- ACL 13.** Hardouin K., **Bedoux G.**, Burlot A.S., Donnay-Moreno C., Bergé J.P., Nyvall-Collén P., Bourgougnon N., 2016. Enzyme-Assisted Extraction for the production of bioactive extracts from the green seaweed *Ulva armoricana*. *Algal Res.*, 16: 233–239.
- ACL 14.** Kendel, M., Wielgosz-Collin, G., Bertrand, S., Roussakis, C., Bourgougnon, N., **Bedoux, G.** 2015. Lipid composition, fatty acids and sterols in the seaweeds *Ulva armoricana*, and *Solieria chordalis* from Brittany (France): an analysis from nutritional, chemotaxonomic, and antiproliferative activity perspectives. *Mar. Drugs*, 13: 5606-5628.
- ACL 15.** **Bedoux, G.**, Hardouin, K., Marty, C., Taupin, L., Vandanjon, L., Bourgougnon, N., 2014. Chemical characterization and photoprotective activity measurement of extracts from the red macroalgae *Solieria chordalis*. *Bot. Mar.*, 57: 291 – 301.