



STAFF

- 40 members, including
- ▶ 22 researchers (16 UBS)
 - ▶ 10 doctoral students (8 UBS)

CONTACT UBS

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PARTNERS



EA 3884 MARINE BIOTECHNOLOGY AND CHEMISTRY LABORATORY LBCM

The research programme aims to study biofilms mainly in a marine environment and blue biotechnologies, using complementary know-how in microbiology, molecular genetics, algology, analytical chemistry, organic synthesis, and chemistry-physics.

The activities of the laboratory are structured around two topic areas:

- ▶ Biofilm and microbiome;
- ▶ Blue biotechnologies (valorization of marine resources, mainly algae, antibiofilm natural molecule search, bioremediation, etc.).

SCIENTIFIC DOMAIN

Microbiology, biology, chemistry, biotechnology.

APPLICATION SECTORS

Biotechnology / Cosmetics / Renewable marine energy / Sailing / Environment / Fishing / Healthcare.

EXPERTISE

Marine biofilms and microbiome / Biofilm research tools: chemical and biological tools and imaging / Analytical chemistry: Mass Spectrometry Infrared, Microscopy: Confocal with laser scan, electronic scan / Molecular biology: quantitative PCR, cloning, mutagenicity / Proteomic biochemistry / Cellular biology: microbiology, cellular culture/ Organic chemistry: polymer synthesis/ Biochemical composition analysis of vegetal biomass, extraction and purification of natural molecules, evaluation of antibiofilm, antiviral, antibacterial, antioxidant activities.

SPECIFIC EQUIPMENT

Imagery: confocal laser scan microscope. Epifluorescence microscopes, Scanning electronic microscope.
Analytical, physical, and organic chemistry: MALDI-TOF / LC-Q-TOF mass spectrometers chromatography (HPLC, CG), Infra-red spectroscope, spectrofluorimeter.
Microbiology, biochemistry, cell and molecular biology: microbiology security hoods P2 laboratories, Mono- and bi-dimensional electrophoreses (proteomics), Classical and real-time PCR.

SCIENTIFIC COLLABORATION

International: numerous research groups (Denmark, Germany, Belgium, Bulgaria, Canada, US, Mexico, Australia, Morocco, Madagascar, Tunisia and Malaysia).

VALORIZATION

Through the ecotoxicologic platform, LBCM proposes expertise in its domains of competence such as ecotoxicologic evaluation of extracts, molecules or coatings. The platform proposes four main analyses:

- In situ study of antifouling/antibiofilm effectiveness in static or dynamic modes
- Lixiviation of formulation (conforming to AFNOR doses);
- Ecotoxicologic tests on marine microorganisms;
- Dosing of metals in aqueous, residual solutions, lixiviats.

KEYWORDS

Biofilms / Bacteria / Algae / Marine sponges / Organism - abiotic surface interactions / Cell-cell interfaces / Bioremediation.