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LBCM - Laboratoire de biotechnologie et chimie marines

Rapport Hcéres

► **To cite this version:**

Rapport d'évaluation d'une entité de recherche. LBCM - Laboratoire de biotechnologie et chimie marines. 2016, Université de Bretagne-Sud - UBS, Université de Bretagne Occidentale - UBO. hceres-02034659

HAL Id: hceres-02034659

<https://hal-hceres.archives-ouvertes.fr/hceres-02034659v1>

Submitted on 20 Feb 2019

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HCERES

High Council for the Evaluation of Research
and Higher Education

Research units

HCERES report on interdisciplinary
research unit:

Laboratoire de Biotechnologie et Chimie Marines

LBCM

Under the supervision of the following
institutions and research bodies:

Université de Bretagne-Sud - UBS

Université de Bretagne Occidentale - UBO

Evaluation Campaign 2015-2016 (Group B)

HCERES

High Council for the Evaluation of Research
and Higher Education

Research units

In the name of HCERES,¹

Michel Cosnard, president

In the name of the experts committee,²

Tom Coenye, chairman of the committee

Under the decree No.2014-1365 dated 14 november 2014,

¹ The president of HCERES "countersigns the evaluation reports set up by the experts committees and signed by their chairman." (Article 8, paragraph 5)

² The evaluation reports "are signed by the chairman of the expert committee". (Article 11, paragraph 2)

Evaluation report

This report is the sole result of evaluation by the expert committee, the composition of which is specified below.

The assessments contained herein are the expression of an independent and collegial reviewing by the committee.

Unit name: Laboratoire de Biotechnologie et Chimie Marines

Unit acronym: LBCM

Label requested: Équipe d'Accueil

Current number: EA 3884

**Name of Director
(2015-2016):** Mr Alain DUFOUR

**Name of Project Leader
(2017-2021):** Mrs Nathalie BOURGOUNON

Expert committee members

Chair: Mr Tom COENYE, Ghent University, Belgium

Experts: Mr Marc BENEDETTI, Université Paris-Diderot (representative of the CNU)

Mr William HELBERT, CNRS, Grenoble

Mr Johan SVENSON, SP Technical Research Institute of Sweden, Sweden

Scientific delegate representing the HCERES:

Mr Steven BALL

Mr Philippe KALCK

Representatives of supervising institutions and bodies:

Mr Pascal GENTE, Université de Bretagne Ouest

Mr Jean PEETERS, Université de Bretagne Sud

Head of Doctoral School: Mr Frédéric JEAN, Doctoral School n°156, EDSM, École Doctorale des Sciences de la Mer

1 • Introduction

History and geographical location of the unit

The Laboratoire de Biotechnologie et Chimie Marines (LBCM) is part of the Université de Bretagne-Sud and is located on two sites of this university (Lorient & Vannes). For the next contract, five MCU from Université de Bretagne Occidentale (Quimper) will be integrated into LBCM. Previous evaluations (AERES) were carried out in 2006 and 2011. The LBCM was named as such in 2005 and has focused on biofilm-related research since 1998. Since 2010, the entire LBCM group has focused on biofilms and marine (“blue”) biotechnology, and performs research in which chemical and biological approaches are combined.

Management team

The unit is presently managed by a director (currently: Mr Alain DUFOUR), a deputy director (currently: Mrs Isabelle LINOSSIER) and a Laboratory Council (LC). For the next contract it is proposed that Mrs Nathalie BOURGOUNON will head the unit with Mrs Isabelle LINOSSIER and Mr Yannick FLEURY as deputy directors in an otherwise similar management structure.

HCERES nomenclature

Domain: SVE

Subdomain: SVE2

Main subdomain: SVE2 LS9

Secondary subdomains: SVE1 LS3, SVE1_LS6 and ST4

Scientific domains

The research area of the unit is chemistry and biochemistry of natural products extracted from marine organisms. The unit is also historically focussed on studies dealing with microbial biofilms. The unit is typically using biochemical and chemical techniques to answer biological questions and can therefore be considered interdisciplinary.

Unit workforce

| Unit workforce | Number on 30/06/2015 | Number on 01/01/2017 |
|---|----------------------|----------------------|
| N1: Permanent professors and similar positions | 13 | 18 |
| N2: Permanent researchers from Institutions and similar positions | | |
| N3: Other permanent staff (technicians and administrative personnel) | 2 (100%) 1 (80%) | 2 (100%) 1 (80%) |
| N4: Other professors (Emeritus Professor, on-contract Professor, etc.) | 3 | |
| N5: Other researchers from Institutions (Emeritus Research Director, Postdoctoral students, visitors, etc.) | 2 | |
| N6: Other contractual staff (technicians and administrative personnel) | 2 | |
| N7: PhD students | 8 | |
| TOTAL N1 to N7 | 31 | |
| Qualified research supervisors (HDR) or similar positions | 6 | |

| Unit record | From 01/01/2010 to 30/06/2015 |
|---|-------------------------------|
| PhD theses defended | 19 |
| Postdoctoral scientists having spent at least 12 months in the unit | 1 |
| Number of Research Supervisor Qualifications (HDR) obtained during the period | 1 |

2 • Overall assessment of the unit

Introduction

Since 2010 the LBCM is entirely focused on biofilms and marine biotechnology, and performs research in which chemical and biological approaches are combined. The main focus is on studies pertaining to the formation of (marine) bacterial biofilms, the interactions between different organisms (both interactions between bacteria, and between bacteria and eukaryotes), and interactions between bacteria and abiotic surfaces. This focus on two main research tracks follows the suggestion made during the previous AERES evaluation. The unit has maintained a strong interest in “applied” research. Since the previous assessment, LBCM became an associate member of the “Institut Universitaire Européen de la Mer” (IUEM), furthering collaborations with other groups.

Global assessment of the unit

The LBCM carries out work in the field of (marine) biofilm formation and marine biotechnology. Their work encompasses both fundamental and applied research and their focus on “marine aspects” sets them apart from other national and international laboratories active in the field of microbial biofilms. In addition, the multidisciplinary nature of the unit allows to address very diverse research questions. The LBCM has interactions with several industrial

partners, and has strong local and regional ties. The international visibility of the unit is lower, with fewer structural international collaborations, relatively few citations to the work of the unit, and a low number of invitations to present at international conferences or at other institutes.

Strengths and opportunities in the context

Microbial biofilm formation and “blue biotechnology” are important topics, both from a fundamental and an applied point of view, and will remain so in the foreseeable future.

The unit is multidisciplinary, with complementary expertises and the availability of appropriate research infrastructure and equipment.

The topics the unit works on have - and will continue to - allow interactions with industry, and the unit has considerable expertise in collaborating with industrial partners.

The laboratory has witnessed a significant increase in surface area for microbiology labs and offices.

The unit displays a strong output in number of PhD theses.

Weaknesses and threats in the context

The international visibility of the unit is still not very high.

There is limited funding through ANR or European projects beyond 2017 and strong dependence on local funding sources.

There is no strong scientific strategy and the organization of the unit in two themes is considered sub-optimal.

There are challenges associated with running a unit that is based on multiple sites and belongs to different universities.

Considerable administrative and teaching workload can be considered to slow down or reduce the research effort.

Recommendations

The expert committee recommends that the unit step up its efforts to increase its international visibility and to actively look for additional international collaborations.

Attention should be paid to maintain sufficient funding levels, and efforts should be made to attract more funding from sources like the EU (including the H2020 program and Eurostars) and ANR.

The unit must implement a scientific strategy for the future (including a publication and technology transfer strategy) and should reconsider its current two-theme internal organization.

The expert committee recommends the unit to focus on its strong points by narrowing down the number of topics under investigation.

The expert committee recommends that the unit implement a more active policy to become associated with a national research institution (which could be CNRS, Ifremer, or IRD).