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BIOS - Biomatériaux et inflammation en site osseux

Rapport Hcéres

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HCERES

High Council for the Evaluation of Research
and Higher Education

Department of Research Evaluation

report on research unit:

Biomaterials and inflammation in bone site

BIOS

Under the supervision of
the following institutions
and research bodies:

Université de Reims Champagne-Ardenne

Evaluation Campaign 2016-2017 (Group C)

HCERES

High Council for the Evaluation of Research
and Higher Education

Department of Research Evaluation

In the name of HCERES,¹

Michel Cosnard, president

In the name of the experts committee,²

Ariane Berdal, chairwoman 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: Biomaterials and inflammation in bone site

Unit acronym: BIOS

Label requested: EA

Current number: 4691

**Name of Director
(2016-2017):** Ms Sophie GANGLOFF

**Name of Project Leader
(2018-2022):** Ms Sophie GANGLOFF

Expert committee members

Chair: Ms Ariane BERDAL, Université Paris Diderot, Inserm

Experts: Ms Reine BAREILLE, Université de Bordeaux, Inserm (representative of supporting personnel)

Mr Pedro GRANJA, Universidade do Porto, Portugal

Mr Didier LETOURNEUR, Université Paris 13, Inserm

Scientific delegate representing the HCERES:

Ms Florence PINET

Representatives of supervising institutions and bodies:

Mr Louis-Frédéric JACQUELIN, faculty of Dentistry

Mr Didier MARCOTTE, Université de Reims Champagne-Ardenne

Mr Jean-Marc MILLOT, faculty of Pharmacy

Head of Doctoral School:

Ms Sandrine BOUQUILLON, Doctoral school N°547, "Sciences, Technologies, Santé"

1 • Introduction

History and geographical location of the unit

The research unit EA 4691 “Biomaterials and Inflammation in Bone Site” (BIOS) is a multidisciplinary unit, founded in 2012. The unit includes personnel from Inserm, pharmacy and dental faculty and hospital members, as a result from the re-structuring of a previous unit. The unit is located at the Health pole of the University of Reims (URCA).

Management team

Ms Sophie GANGLOFF is director of the unit.

HCERES nomenclature

Principal: SVE2

Secondary: SVE5, SVE3

Scientific domains

Although multidisciplinary the EA 4691 BIOS unit is monothematic, focusing its research on the interactions between biomaterials and bone microenvironment during inflammatory and/or infectious phenomena. The research carried out at the unit is subdivided into three major areas located at interfaces of the main topic, namely: i) development of new functionalized matrices in favor of bone formation; ii) characterization of the inflammatory response in the bone microenvironment; iii) technological development, namely, sterilization with non-thermal plasmas.

Keywords: biomaterials, bone regeneration, inflammation, fibrosis, CFTR.

Unit workforce

Unit workforce	Number on 30/06/2016	Number on 01/01/2018
N1: Permanent professors and similar positions	12	11
N2: Permanent researchers from Institutions and similar positions	1	1
N3: Other permanent staff (technicians and administrative personnel)	5	5
N4: Other researchers (Postdoctoral students, visitors, etc.)	4	
N5: Emeritus	1	
N6: Other contractual staff (technicians and administrative personnel)	3	
N7: PhD students	7	
TOTAL N1 to N7	33	
Qualified research supervisors (HDR) or similar positions	5	

Unit record	From 01/01/2011 to 30/06/2016
PhD theses defended	6
Postdoctoral scientists having spent at least 12 months in the unit	3
Number of Research Supervisor Qualifications (HDR) obtained during the period	

2 • Assessment of the unit

Global assessment of the unit

The unit as a whole and its director are to be commended for the brave and profound changes introduced since the last evaluation, which already originated considerable improvements. Great attention was given to all recommendations from the previous evaluation, and they were successfully followed with the focus on biomaterials and inflammation in bone site for regenerative medicine/tissue engineering. However, the unit has been effective in implementing strategies to integrate initially different subdomains (association biomaterials and immunology) and already produced data. Furthermore, the unit has been progressively delineating a specific scientific niche (interactions between biomaterials and bone microenvironment during inflammatory and/or infectious phenomena) in which they intend to play an original and thus visible contribution at the national and international levels, despite the competitive context. Overall, the unit's dynamics and most of the current indicators point to a sustained evolution towards a higher scientific standard and improved international competitiveness.

The changes introduced since the last evaluation have resulted in increased multidisciplinary by bringing to the unit researchers and clinicians with varied backgrounds but with relevant expertise, namely in orthopedics, dentistry, microbiology and immunology, which association is a strong originality of the unit.

Considering the main indicators resulting from the unit's research activity, there seems to be room for improvement in terms of quality and quantity, although the yet short existence of this unit should be taken into consideration. An aspect that still raises concern is the low number of full time researchers in the unit (only 1 Inserm researcher). An additional concern is related with the high number of publications in very low impact journals, which should be avoided. Concerns are also raised by the relatively low level of funding although the efforts put into improving this aspect are very clear. More efforts should be put into international competitive funding.

In general, and despite the focused thematic of this unit, an international branding of its research seems to be missing. The clinical impact of its research seems to be an adequate direction to achieve international notoriety. The integration between the unit's most impactful basic and clinical research and the applied research is yet to be implemented. The interesting domain of rare diseases (cystic fibrosis/CFTR) impacting bone, tooth and jaw physiology is not fully exploited and could certainly give the group an international visibility.