

FINAL RESUME ON THE RESEARCH UNIT: Developmental Biology and Reproduction (BDR)

UNDER THE SUPERVISION OF THE FOLLOWING INSTITUTIONS AND RESEARCH BODIES:

Institut national de la recherche agronomique -
Inra

École nationale vétérinaire d'Alfort –EnvA

Université Versailles Saint-Quentin-en-Yvelines -
UVSQ

EVALUATION CAMPAIGN 2018-2019 GROUP E

Report published on February, 19 2019



In the name of Hcéres¹:

Michel Cosnard, President

In the name of the experts committee²:

Joël Drevet, Chairman of the committee

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

¹ The president of Hcéres "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 experts committee". (Article 11, paragraph 2).

Tables in this document were filled with data provided by laboratories and supervising bodies in the unit's application and in the Excel files "Données du contrat en cours" and "Données du prochain contrat".

UNIT PRESENTATION

Unit name:	Developmental Biology and Reproduction
Unit acronym:	BDR
Requested label:	UMR Inra / EnvA / UVSQ
Application type:	Restructuration
Current number:	UMR 1198 + EA 7404
Head of the unit (2018-2019):	Ms Corinne COTINOT
Project leader (2020-2024):	Ms Pascale CHAVATTE-PALMER
Number of teams:	5

EXPERTS COMMITTEE MEMBERS

Chair:	Mr Joël DREVET, Université Clermont Auvergne (UCA)
Experts:	Mr Romain BARRÈS, University of Copenhagen, Denmark
	Ms Nathalie DICLEMENTE-BESSE, Inserm Paris (representative of Inra CSS)
	Mr Chrystophe FERREIRA, Université Paris Descartes (supporting personnel)
	Mr Kenneth MCELREAVEY, Pasteur Institute, Paris
	Ms Jeanne PERRIN, Aix-Marseille Université (representative of CNU)

HCÉRES REPRESENTATIVE

Mr Pierre COUBLE

REPRESENTATIVES OF SUPERVISING INSTITUTIONS AND BODIES

Mr Alexis CONSTANTIN, Université Versailles-Saint-Quentin
 Ms Françoise MEDALE, Inra
 Mr Renaud TISSIER, EnvA

INTRODUCTION

HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT INTRODUCTION

The BDR "Developmental Biology & Reproduction" research unit, UMR 1198, is a joint research unit affiliated to Inra (Institut National de la Recherche Agronomique) and EnvA (École nationale vétérinaire d'Alfort). It was created in 2004. Under the current 2015-2019 contract, the unit is located on two sites, the Inra Jouy-en-Josas research center and the "Maisons-Alfort" veterinary school. For the next five-year period, the unit will integrate the EA7404 "Gametes, Implantation & Gestation, GIG" from the Université Versailles-Saint-Quentin (UVSQ) located at the Poissy Hospital. Thus, the unit will depend upon three supervising institutions: Inra, EnvA and UVSQ. The proposed name of the future unit is BREED, Biology of Reproduction, Environment, Epigenetic & Development.

MANAGEMENT TEAM

The BDR research unit is currently chaired by Ms Corinne Cotinot assisted since 2010 by two deputy directors: Ms Geneviève Jolivet, Ms Véronique Duranthon, and Ms Isabelle Hue. For the next contract, BREED will be managed by Ms Pascale Chavatte-Palmer assisted by Mr Olivier Sandra as deputy director.

HCÉRES NOMENCLATURE

SVE2_3; SVE5_1.

SCIENTIFIC DOMAIN

BDR is dedicated to understanding the relationships between genome/epigenome/environment and their consequences on mammalian physiology. Particular emphasis is placed on fetal/maternal relationships, gonadal differentiation and, transgenerational effects. Most of the research focuses on livestock and rodent models, but with the addition of the GIG clinical research team from UVSQ, the unit will extend its scope to humans.

UNIT WORKFORCE

	Unit workforce		
	UMR 1198	EA 7404	UMR 1198 + EA 7404
Active staff	Number 30/06/2018	Number 30/06/2018	Number 01/01/2020
Full professors and similar positions	2	5	9
Assistant professors and similar positions	3	5	8
Full time research directors (Directeurs de recherche) and similar positions	7	0	7
Full time research associates (Chargés de recherche) and similar positions	13	0	15
Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.")	0	9	9
High school teachers	0	0	0
Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)	40	2	39

Permanent staff	65	21	87
Non-permanent professors and associate professors, including emeritus	1	1	
Non-permanent full time scientists, including emeritus, post-docs	0	0	
<i>PhD Students</i>	3	2	
Non-permanent supporting personnel	5	0	
Non-permanent staff	9	3	
Total	74	24	

GLOBAL ASSESSMENT OF THE UNIT

The BDR unit has a long-standing, highly recognized and rather unique expertise in the production and study of non-conventional models of large mammals, it is at the crossroads of the production of crucial new fundamental knowledge that cannot be derived solely from conventional laboratory mammalian rodent models. During the current contract, the unit has built a solid, innovative and high-performance environment to study the foeto-maternal interface, uterine and pulmonary allografts, the fine embryonic impacts of in utero exposure to maternal dietary changes and/or environmental exposures, as well as the study of epigenetic consequences and the heritable nature of these changes. In addition, the unit has developed significant expertise in the field of mammalian sperm epigenetic landscape (particularly in bovine species) and how it could potentially be used as a marker of male fertility and progeny performance.

The BDR/BREED unit benefits from a very efficient, supportive and rigorous management that is unanimously recognized at all levels of the unit's workforce. The unit has, however, to face challenges that can undermine its leadership. One of the most important concerns the sudden and rather insufficiently prepared closure of the breeding facility for large animals that historically supplied the unit. Even if on-site alternative solutions have been negotiated by the unit and are gradually being implemented, they seem undersized compared to the needs of the unit and are announced as more expensive. The second major challenge is the significant loss of staff, particularly at the permanent full-time scientist levels. Only one recruitment has occurred in the last five years. This will not compensate for the age pyramid of current PIs who will cease their activities during the next contract, and there is a risk of a very damaging loss of expertise. This situation is compounded by the fact that doctoral enrolment is rather low, a frequent problem in Inra research centers because of their often remote location and the scarcity of university members in their ranks. The unit is also confronted with the low attractiveness of research in reproductive biology due to the difficulty of finding financial support and good employment opportunities for these issues, despite the paramount importance of reproduction in the life and survival of species.

Though, the academic structuring of Paris-Saclay and the grouping of animal science research units within the Paris Saclay Animal Sciences (SAPS) network within which BDR is very active, offer new academic opportunities that could partly respond to the low attractiveness of the unit for students.

With a very good to excellent level of production and scientific recognition, an already excellent level of connections and opportunities to extend further the interactions with the non-academic sector, a very good level of student training and excellent to exceptional management, the BDR/BREED unit has solid foundations. The committee was pleased with the proposed research project for the future. It was considered ambitious, with a good sense of collaborative tasks. However, this very good to excellent research project seems oversized given the various challenges facing the unit. Consequently, a certain level of prioritization will have to be considered.

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