



# IBGC - Institut de biochimie et génétique cellulaires

## Rapport Hcéres

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# HCERES

High Council for the Evaluation of Research  
and Higher Education

Research units

HCERES report on research unit:

Institute of Cellular Biochemistry and Genetics

IBGC

Under the supervision of  
the following institutions  
and research bodies:

Université de Bordeaux

Centre National de la Recherche Scientifique - CNRS

# HCERES

High Council for the Evaluation of Research  
and Higher Education

Research units

*In the name of HCERES,<sup>1</sup>*

Didier HOUSSIN, president

*In the name of the experts committee,<sup>2</sup>*

Fabrice RAPPAPORT, chairman of the  
committee

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Under the decree N°2014-1365 dated 14 november 2014.

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

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

## Evaluation report

This report is the result of the evaluation by the experts committee, the composition of which is specified below. The assessments contained herein are the expression of an independent and collegial deliberation of the committee.

Unit name:	Institute of Cellular Biochemistry and Genetics
Unit acronym:	IBGC
Label requested:	UMR
Present no.:	UMR 5095
Name of Director (2014-2015):	Mr Bertrand DAIGNAN-FORNIER
Name of Project Leader (2016-2020):	Mr Bertrand DAIGNAN-FORNIER

## Expert committee members

Chair:	Mr Fabrice RAPPAPORT, Institut de Biologie Physico-Chimique, Paris
Experts:	Mr Antonio BARRIENTOS, Miller School of Medicine, Miami, USA
	Mr Frédéric BOUILLAUD, Institut Cochin, Paris
	Mr Bernard OFFMAN, Faculté des Sciences et Techniques, Nantes (representative of the CNU)
	Mr Tiago OUTEIRO, Center for Nanoscale Microscopy and Molecular Physiology of the Brain, Goettingen, Germany
	Ms Anne PAOLETTI, Institut Curie, Paris
	Mr Jesus REQUENA, University of Santiago de Compostela, Spain
	Mr Bruno ROBERT, Institut de biologie et de technologies de Saclay (CEA), Gif sur Yvette
	Ms Marie-Hélène VERLHAC, Collège de France, Paris (representative of the CoNRS)
	Ms Katja WASSMANN, Laboratoire de Biologie du Développement, Paris

### Scientific delegate representing the HCERES:

Mr Pierre COUBLE

### Representatives of the unit's supervising institutions and bodies:

Mr Pierre DOS SANTOS, University of Bordeaux

Mr Laurent KODJABACHIAN, CNRS

Mr Roger MARTHAN (representative of Doctoral School "Sciences de la Vie et de la Santé" - SVS - n° 154)

## 1 • Introduction

### History and geographical location of the unit

The proposed Research entity is located in Bordeaux. It is an *Unité Mixte de Recherche* with two supporting institutions, the CNRS and the University of Bordeaux. It will be the continuation of the previous UMR 5095. Its contour will remain unchanged except for the adjunction of two additional groups, which are currently being selected. The unit is composed of 12 teams, the main scientific interests of which lie, broadly speaking, in cellular metabolism and cell division.

### Management team

Mr Bertrand DAIGNAN-FORNIER is the director of the unit. He is in charge, together with the Scientific Council, composed of the group leaders, of the scientific policy of the Institute.

### HCERES nomenclature

Principal: SVE1\_LS3

Secondary: SVE1\_LS2

SVE1\_LS1

### Unit workforce

Unit workforce	Number as at 30/06/2014	Number as at 01/01/2016
<b>N1:</b> Permanent professors and similar positions	15	15
<b>N2:</b> Permanent researchers from Institutions and similar positions	22 (21.8)	22
<b>N3:</b> Other permanent staff (without research duties)	23 (21.8)	21 (20.5)
<b>N4:</b> Other professors (Emeritus Professor, on-contract Professor, etc.)	1	1
<b>N5:</b> Other researchers (Emeritus Research Director, Postdoctoral students, visitors, etc.)	7	1
<b>N6:</b> Other contractual staff (without research duties)	9	
<b>TOTAL N1 to N6</b>	<b>77 (75.6)</b>	<b>60 (59.5)</b>

Unit workforce	Number as at 30/06/2014	Number as at 01/01/2016
Doctoral students	8	
Theses defended	19	
Postdoctoral students having spent at least 12 months in the unit	7	
Number of Research Supervisor Qualifications (HDR) taken	5	
Qualified research supervisors (with an HDR) or similar positions	33	33

## 2 • Overall assessment of the unit

### Global assessment of the unit

The unit comprises twelve teams which, for a large majority, delivered excellent to outstanding outputs during the past term. Its attractiveness is attested by the recruitment of young scientists and its scientific momentum is reflected by the overall scientific production of the unit and its success in grant applications, which are both remarkable. While the number of published articles remained stable, the average quality, as assessed by the impact factor of the journals, has improved (the number of paper published in journals with  $IF < 4$  is below 30 % and those published in journals with  $IF > 8$  is about ~15 %). The next term is expected to see the arrival of two additional group leaders who are currently being selected, confirming the strategy of the unit to sustain its development by external growth. The foreseen team leader's interests are on the intracellular trafficking in yeast and on hydrogen sulfide as a gasotransmitter. From a scientific standpoint this will further widen the breadth of the unit's members' interest, which already encompasses a broad spectrum of subjects.

### Strengths and opportunities in relation to the context

The overall excellent outputs of the individual teams highlight the quality of the scientific and technical environment that the unit can provide. It is well inserted within the local scientific network and, in particular, benefits from the local initiatives such as Bordeaux Cancer Initiative or Bordeaux Synthetic Biology Initiative. The unit is developing new imaging approaches, including super-resolution microscopy in addition to the molecular genetics and structural approaches for which IBGC is well recognized. The unit has a strong emphasis on cell biology with particular focus on mitochondrial biology (from structure to mitophagy) and on cell division (from chromosome sorting and transmission to growth and quiescence). The projects conducted in the unit resort to several biological models, prominent amongst which are yeasts. The past term has seen the introduction and development of multicellular organisms such as *C. elegans* and *D. melanogaster* as new models. This allows taking advantage of the respective merits of these different models and could create novel synergies between the various teams.

### Weaknesses and threats related to the context

The broad spectrum of the subjects combined to the full scientific and financial independence of the group leaders make the Institute look more alike an assembly of autonomous teams than a unit strictly speaking. Emblematic of this, is the fact that two teams are physically located outside the building with no short-term plans or even willingness to integrate them geographically. The current recruitment of two additional groups essentially aims at further backing up the competitiveness of the unit. Although this is undoubtedly a commendable objective, it stands short as a scientific policy. As regards to this latter issue, the strongest links put forward by the unit are more methodological than scientific, strictly speaking. In the long-term this may not be strong enough to counteract centrifugal forces. Besides, there are genuinely overlapping scientific interests that are strikingly overlooked. This likely is because they have sprung during the course of the long and renowned history of the unit and have not yet soaked in deeply enough to tear down the picket fences that arise between groups that naturally focus on their own projects. In any case, these overlaps could be fruitfully exploited and would make the unit more than the sum of its, otherwise, excellent individual teams.

## Recommendations

The past term has seen significant changes in the contours and scientific interests of the unit. Overall these have been fruitfully conducted as attested by the attractiveness of the unit and the quality of the scientific productions of most of the teams that compose the unit that has remarkably improved. These efforts should be continued and sustained. The unit is now entering another period during which the potential added values of being a unit would deserve being further exploited.

Additional benefit could be taken from the various scientific synergies that exist between groups and they could be promoted without denting the scientific autonomy of the various teams. In general, the scientific policy of the Unit would gain in momentum if being more strongly focused on its scientific content rather than on its performance as defined by its competitiveness. As an example, a historical major strength of the unit has been research on mitochondrial biogenesis. One of the internationally recognized leader of this field, Dr DI RAGO, is going to retire over the next few years, and no clear plans to consolidate this research axis seem to be implemented. As another example, the glaring ERC grant undoubtedly rains down upon the entire unit but it will remain a glitter if it stays as little integrated into the overall unit as it presently is.

Ideally, the unit members should build upon their own scientific strengths to find the resources to rejuvenate the Unit's modus operandi.

One may, for example, consider regrouping several teams sharing common interests or tools within departments, keeping in mind that the objective is to lay bridges and not to build additional counterproductive compartments.

Alternatively and not exclusively, an external Scientific Advisory Board may provide the required initial spark to start the process, keeping in mind that, ultimately, the changes will be conducted by the unit members.

From a practical standpoint, premises allowing collegial lunch or coffee breaks would constitute a simple and valuable investment to foster exchanges between team members and provide informal opportunities for sparkling debates.