IBMP - Institut de biologie moléculaire des plantes

Rapport Hcéres

HCERES

High Council for the Evaluation of Research and Higher Education

Department of Research Evaluation

report on research unit:

Institut de Biologie Moléculaire des Plantes

IBMP

under the supervision of the following institutions and research bodies:

Université de Strasbourg

Centre National de la Recherche Scientifique - CNRS

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]

Gordon Simpson, chairman of the committee

Under the decree N°.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:	Institut de Biologie Moléculaire des Plantes
Unit acronym:	IBMP
Label requested:	UPR
Current number:	2357
Name of Director (2016-2017):	Ms Laurence DROUARD
Name of Project Leader (2018-2022):	Ms Laurence DROUARD

Expert committee members

Chair:	Mr Gordon SIMPSON, Université de Dundee, Royaume-Uni
Experts:	Ms Christel CARLES, Université Grenoble Alpes - UGA (representative of CoNRS)
	Mr Martin CRESPI, CNRS
	Mr Philippe GALLUSCI, Université de Bordeaux
	Ms Marjorie JUCHAUX, Université Paris Sud (representative of supporting personnel)
	Ms Claudine MAYER, Université Paris Diderot (representative of CNU)
	Mr Mario PEZZOTTI, Université de Vérone, Italie
	Mr Alain TISSIER, Leibniz-Institute of Plant Biochemistry, Halle, Allemagne
	Ms Ute VOTHKNECHT, Université de Bonn, Allemagne

Scientific delegate representing the HCERES:

Mr Serge DELROT

Representatives of supervising institutions and bodies:

Ms Catherine RECHENMANN, Institute of Biological sciences, CNRS

Ms Catherine FLORENTZ, Université de Strasbourg

Head of Doctoral School:

Mr Serge POTIER, ED n°414, “Vie et Santé”

1 • Introduction

History and geographical location of the unit

The IBMP, created in 1987, is located in Strasbourg and includes staff from CNRS (INSB) and the University of Strasbourg (UNISTRA). Until recently, IBMP staff were split between two sites: the main research building and the Botanical Institute of UNISTRA. However, in 2015 a new extension to the main research building was completed. The new extension not only enables all members of IBMP to occupy the same space, but greatly enhances the academic research environment.

Management team

- present director: Ms Laurence DROUARD;
- present deputy director: Mr Jean-Luc EVRARD;
- future director: Ms Laurence DROUARD;
- future deputy director: Not confirmed at the time of the review visit.

HCERES nomenclature

SVE2 Biologie cellulaire, Imagerie, Biologie Moléculaire, Biochimie, Génomique, Biologie Systémique, Développement, Biologie Structurale, Virologie.

Scientific domains

The IBMP is one of Europe's pre-eminent research centres studying plant biology. The IBMP investigates various areas of plant-virus interactions, mitochondria biology, RNA biology, protein degradation and secondary metabolites. The model plant Arabidopsis thaliana is the subject of most research activity. Individual research teams are supported by technology platforms that include gene expression analysis, protein expression, structural biology, metabolomics, microscopy and imaging, bio-image and bio-informatics and plant production.

Unit workforce

Unit workforce	Number on 30/06/2016	Number on 01/01/2018
N1: Permanent professors and similar positions	11.5	11.5
N2: Permanent researchers from Institutions and similar positions	30.8	28.8
N3: Other permanent staff (technicians and administrative personnel)	40.2	37.6
N4: Other researchers (Postdoctoral students, visitors, etc.)	17	
N5: Emeritus	1	
N6: Other contractual staff (technicians and administrative personnel)	10	
N7: PhD students	34	
TOTAL N1 to N7	**144.5**	
Qualified research supervisors (HDR) or similar positions	36	

Unit record	From 01/01/2011 to 30/06/2016
PhD theses defended	46
Postdoctoral scientists having spent at least 12 months in the unit	41
Number of Research Supervisor Qualifications (HDR) obtained during the period	7

2 • Assessment of the unit

Global assessment of the unit

The main scientific interests of the IBMP cover the basic understanding of plant biology at the molecular level. The reputation of IBMP is world-leading in relation to its specializations in plant mitochondria, plant-virus interactions, secondary metabolites, protein ubiquitylation and gene expression at the level of chromatin and RNA. Since the last evaluation report (2012), the IBMP has successfully widened its research impact into the area of gibberellin hormone biology and translated output from its virology research. However, ERC-funded expertise in cell-cycle control had been lost (with the departure of the corresponding team leader) and the former world-leading presence of IBMP in the field of RNA silencing has unravelled in the wake of high-profile sanctions for scientific misconduct.

The strengths of the unit relate to scientific excellence. The team leaders have a high degree of autonomy to pursue original research that is reflected in the quality of scientific publications. Other indicators of scientific excellence included an ERC Advanced Investigator award, memberships of EMBO and FEBS, and editorial positions at internationally leading scientific journals. The excellent free-to-access shared technical platforms were widely appreciated by those at IBMP and they enable even small teams to be productive. In several respects (metabolomics especially), the technical platforms were internationally leading edge. A new extension to IBMP was completed in 2015 and this had brought all the IBMP teams together in one building, providing state-of-the-art plant growth facilities and meeting room space. Although the focus at IBMP is on basic science, there were new and exciting efforts to commercialise activity and increase interactions with the private sector. For example, there were innovative projects involving nanobodies and viral particles. The training record of PhD students was excellent. Career development was enabled through the internal promotion of promising new team leaders. The support of the Université de Strasbourg for the IBMP was clear.

The weaknesses of the unit mostly relate to its professional organization. Collegiality, communication and collaboration between teams could be improved. The refresh of the scientific interests and expertise was compromised by the lack of external recruits. No new female team leaders had been recruited from outside for at least 10 years, and with forthcoming retirements, the gender balance of team leaders is set to worsen. The commitment of the director to the IBMP was not in doubt. However, the burden of the workload was not sufficiently shared between the director and the team leaders. A clearer strategy and sense of priorities derived from discussions involving all team leaders was required.

The evaluation visit took place at a difficult time in IBMP's history. The IBMP has been at the centre of the most publicised case of scientific misconduct to affect plant science. The collateral damage to the professional and personal lives of people working at IBMP was distressing and many individuals are deeply affected by the affair. The proposal to promote a team leader, already sanctioned for scientific misconduct, to lead a research team into the future was not supported by the evaluation panel. The HCERES panel was surprised and disappointed that the IBMP Evaluation Report did not include publicly available facts relating to previous inquiries into scientific misconduct or the retraction of scientific publications. The IBMP needs to move to a transparent reinforcement of the responsibilities that accompany the privilege of leading a team at IBMP. Although some steps to address issues around research integrity were being taken, a coherent strategy that was better communicated, was needed.

Scientific misconduct does not define IBMP and nor are issues surrounding scientific misconduct unique to IBMP. In Europe, local scientific management teams and their direct employers deal with these issues, but they are not free from potential conflicts of interests. Consequently, the delivery of an independent, consistent response that the public and other scientists can understand is difficult. The circumstances currently surrounding the IBMP provides a Case Study to provide an evidence-based rationale for the creation of an Independent European Office for Research Integrity similar to the Office for Research Integrity that already operates in the USA. The announcement on March 20th 2017 by HCERES of the creation of a French Office of Research Integrity (l'Office Français d'Intégrité Scientifique, OFIS) was welcomed by the evaluation panel.

In order to build on its track record of scientific excellence, the twin priorities for the IBMP should be to: (1) develop a scientific strategy that will balance competitiveness to a range of funding sources; (2) develop, with CNRS involvement, a coherent strategy that combines transparency and personal support to IBMP staff to move on from the issues of scientific misconduct. Both of these priorities require a reconsideration of the professional culture within IBMP. Overall, the committee considered that the scientific quality of outputs across the unit as a whole was excellent in the evaluated period and is confident that IBMP will continue to be a major centre for plant biology in Europe.