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BIOPI - Biologie des plantes et innovation

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:

Plant Biology and Innovation

BIOPi

under the supervision of
the following institutions
and research bodies:

Université de Picardie Jules Verne

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

Zoë Popper, 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: Plant Biology and Innovation

Unit acronym: BIOPI

Label requested: EA

Current number: 3900

**Name of Director
(2016-2017):** Mr Éric GONTIER

**Name of Project Leader
(2018-2022):** Mr François MESNARD

Expert committee members

Chair: Ms Zoë POPPER, National University of Ireland, Galway, Ireland

Experts: Ms Véronique CHEYNIER, INRA Montpellier
Ms Catherine DEBORDE, INRA Bordeaux (representative of supporting personnel)
Mr Serge PEREZ, CNRS and Université de Grenoble Alpes
Mr Bruno TOURAINE, Université de Montpellier

Representative of supervising institutions and bodies:
Mr Mohammed BENLAHSEN, Université de Picardie Jules Verne

Head of Doctoral School:
Ms Véronique BACH, vice-head of the Doctoral School n° 585, “Sciences, Technologie, Santé”

1 • Introduction

History and geographical location of the unit

The BIOPI “Biologie des Plantes et Innovation” unit was created in 2011. It was founded in response to restructuring of the unit “Biologie des Plantes et Contrôle des Insectes Ravageurs” which, in 2008-2011, consisted of 6 groups organised in two themes.

- theme 1: stress and bioprotection of plants;
- theme 2: agrosources and metabolites for health promotion.

The unit was then joined by the laboratory of Plant and Microbe polysaccharides and continued to restructure at both scientific and management levels.

BIOPI is located at three sites:

- 1) UFR Sciences;
- 2) UFR Pharmacy;
- 3) IUT Amiens situated less than 2 km from each other.

BIOPI contributes to the activities of, and benefits from, several technological platforms at the UPJV “Université de Picardie Jules Verne” including state-of-the-art facilities in transcriptome analysis (qPCR and microarray platforms), imaging (confocal microscopy and electron microscopy), chemical analysis (NMR and mass spectrometry), and plant growth facilities (greenhouses and phenotyping cabinets).

The unit contributes to undergraduate and postgraduate teaching at UPJV and depends on the Doctoral School ED n° 585 Sciences-Technologies-Health (École Doctorale “Sciences, Technologie, Santé”). The main research activities align to those of the national scientific council CNU66 (Physiology), CNU85 (Physico-chemical science and engineering applied to pharmacy), CNU64 (Biochemistry, molecular biology), and CNU68 (Biology of organisms, agronomy, food industry).

Management team

Current director: Mr Éric GONTIER.

Current deputy director: Mr François MESNARD.

Future director: Mr François MESNARD.

Future deputy directors: Mr Olivier VAN WUYSTWINKEL and Mr Éric GONTIER.

HCERES nomenclature

SVE2 Biologie Cellulaire, Imagerie, Biologie Moléculaire, Biochimie, Génomique, Biologie Systémique, Développement, Biologie Structurale.

Scientific domains

BIOPI aims to understand the impact of changes in cell wall structure and secondary metabolism on plant development. For this purpose both fundamental (Arabidopsis) and applied (Flax) models are investigated using multidisciplinary approaches ranging from molecular biology to analytical chemistry.

Unit workforce

Unit workforce	Number on 30/06/2016	Number on 01/01/2018
N1: Permanent professors and similar positions	27	27
N2: Permanent researchers from Institutions and similar positions	0	0
N3: Other permanent staff (technicians and administrative personnel)	4.6	4.6
N4: Other researchers (Postdoctoral students, visitors, etc.)	4	
N5: Emeritus	1	
N6: Other contractual staff (technicians and administrative personnel)	0	
N7: PhD students	14	
TOTAL N1 to N7	50.6	
Qualified research supervisors (HDR) or similar positions	12	

Unit record	From 01/01/2011 to 30/06/2016
PhD theses defended	17
Postdoctoral scientists having spent at least 12 months in the unit	10
Number of Research Supervisor Qualifications (HDR) obtained during the period	3

2 • Assessment of the unit

Global assessment of the unit

The scientific strategy of the unit is strongly defined and cohesive and is divided into three themes covering both basic and applied research:

- 1) the roles of pectin in remodelling and plant development;
- 2) regulation of phenylpropanoid synthesis and development;
- 3) root metabolism engineering.

The unit has taken into account the 2010 evaluation report by putting in place measures aimed to increase functional and scientific cohesiveness. BIOPI has increased internal communication and collaboration through a number of strategies that have improved the team spirit, well-being and scientific outputs. The themes are supported by several state-of-the-art research platforms, including NMR and MS spectrometers, plant phenotyping and molecular biology. BIOPI has strong collaborations through other laboratories of SFR Condorcet FR CNRS 3417 and there are a lot of other potential collaborations, especially with industrial partners. The unit includes researchers that are distinguished for their contribution to science (through awards and distinctions, for example as a junior member of IUF) and many that are well recognised within their area of expertise. The research being carried out in the unit is topical, competitive and is receiving recognition at the international level but the unit could be more ambitious in their publication strategy. The creation of the new administrative Region Hauts de France put some uncertainty about the continuity of the research support that was previously obtained from the Picardie Region. However, BIOPI has made successful applications for funding to national and international, public-private and private funding bodies. This should provide some stability to the funding stream. Multiple location of the unit can pose some difficulties for instance with regard to communication within the unit. Teaching loads are on average 7% higher than the mandatory 192 h teaching load, and might still increase because of the demographics (birth rate). There is a discrepancy between the number of teaching staff, permanent full-time researchers and technical staff on one side and the ambition and potential of the unit on the other side. The unit have significantly increased their efforts to attract and train international students, but could attract international researchers with funding e.g. from European Research Council and Japan Society for the Promotion of Science.