BVME - Biologie végétale et microbiologie environnementale

Rapport Hcéres

HCERES

High Council for the Evaluation of Research and Higher Education

Department of Research evaluation

report on research unit:

Biologie Végétale et Microbiologie Environnementale

BVME

under the supervision of the following institutions and research bodies:

Aix-Marseille Université

Commissariat à L'Énergie Atomique et aux Énergies Alternatives – CEA

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]

Stefan Jansson, 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:	Biologie Végétale et Microbiologie Environnementale
Unit acronym:	BVME
Label requested:	UMR
Current number:	7265
Name of Director (2016-2017):	Mr Michel HAVAUX
Name of Project Leader (2018-2022):	Mr Pierre CHAGVARDIEFF

Expert committee members

Chair:	Mr Stefan JANSSON, Umeå University, Sweden
Experts:	Mr Pierre CARDOL, University of Liège, Belgique
	Mr Guilhem DESBROSSES, Université de Montpellier (representative of CNU)
	Mr Stéphane MENAGE, CNRS Université Grenoble Alpes
	Mr Xavier NESMES, INRA, Lyon (representative of supporting personnel)
	Mr François PARCY, CNRS, Grenoble
	Ms Kornelia SMALLA, Federal Research Centre for Cultivated Plants, Braunschweig, Germany
	Mr Fabrice VAVRE, CNRS, Lyon (representative of CoNRS)

Scientific delegate representing the HCERES:

Mr Steven BALL

Representatives of supervising institutions and bodies:

Mr Pierre CHIAPPETTA, Aix-Marseille Université

Mr Joël CUGHEN, CNRS – INEE

François SIGAUX, CEA – DRF

Mr Sébastien THOMINE, CNRS-INSB

Head of Doctoral School:

Mr Fréderic BARRAS, doctoral school n°62, “Sciences de la Vie et de la Santé”

1 • Introduction

History and geographical location of the unit

The BVME unit is located in Cadarache and Marseille. It is affiliated to CNRS, CEA and AMU. Created in 2004, it was reconducted in 2008 and 2012. BVME contains seven research teams and one platform (GRAP), all located in Cadarache except for one present on the AMU Luminy campus.

BVME has almost the same perimeter than the BIAM CEA research institute except for six people and two teams from UMR4320. Eventually, the BVME and BIAM perimeters will be identical.

BVME has 102 permanent and 40-50 non-permanent scientists.

Management team

BVME director for the previous period was Mr Michel HAVAUX, assisted by Ms Catherine BERTHOMIEU. Mr Pierre CHAGVARDIEFF was appointed last year as BIAM director to replace Mr Thierry HEULIN. Mr Pierre CHAGVARDIEFF is proposed as the next BVME director.

HCERES nomenclature

Main domains: SVE1 Agronomy, Vegetal Biology, Ecology, Environnement, Evolution

Secondary domains: SVE2 Biology Cellular, Imagery, Molecular Biology, Biochemistry, Genomic, System Biology, Development, Structural Biology

Scientific domains

BVME displays a mix of integrated and functional approaches dealing with biochemistry and physiology of photosynthesis and microalgae and plants, mineral nutrition, biochemistry of metals and environmental bacteriology.

Unit workforce

Unit workforce	Number on 30/06/2016	Number on 01/01/2018
N1: Permanent professors and similar positions	6	6
N2: Permanent researchers from Institutions and similar positions	41	40
N3: Other permanent staff (technicians and administrative personnel)	61	55
N4: Other researchers (Postdoctoral students, visitors, etc.)	14	
N5: Emeritus	2	
N6: Other contractual staff (technicians and administrative personnel)	8	
N7: PhD students	26	
TOTAL N1 to N7	**158**	
Qualified research supervisors (HDR) or similar positions	27	

Unit record	From 01/01/2011 to 30/06/2016
PhD theses defended	34
Postdoctoral scientists having spent at least 12 months in the unit	31
Number of Research Supervisor Qualifications (HDR) obtained during the period	5

2 • Assessment of the unit

Global assessment of the unit

The UMR 7265 BVME was created in 2004, and acquired its current form from 2012 following the second evaluation. The unit now comprises seven research teams and one platform devoted to plant growth facilities and instrumentation development. The BVME unit has a long-lasting experience in the integrated study of the responses of living organisms such as plants, algae and bacteria to environmental constraints and bio-energy conversion and production. Behind those unifying axes, the unit encloses a variety of scientific questions and strong recognition and expertise as for example on magneto-tactic bacteria or on assessment of photosynthetic performances. In each of the two axes, they have a very good national and international identity as exemplified by their publication record. These axes gather scientists with complementary skills in a large range of disciplines and approaches such as biochemistry, biophysics, bioenergetics, structural biology, functional genetics, toxicology, physiology, ecology…). The unit scientific report gives little information on how the main scientific axes have evolved during the last contract but the strategy putting forward the bio-energy (bioconversion, storage and environmental resources) has been strengthened. At the end of the reporting period, the unit has initiated a still ongoing reflection on a new organization that could take place within the frame of the "Cité des Énergies" project. The cite of energies defines a project where all research "laboratories" (in fact unit teams and former independent laboratories following CEA nomenclature) presently hosted in distinct buildings within the CEA Cadarache campus will be united in a single novel buiding out of the high security CEA campus one out of the seven research groups will however be physically maintained on campus at Luminy in Marseilles. The scientific quality of the BVME output is variable between teams and ranges from very good to outstanding with an excellent average. Academic reputation and appeal is slightly lagging behind the output quality as the BVME, as such, does not presently have more visibility than the teams taken individually, a fact which might change in the future if the "Cité des Énergies" project is implemented. Depending on the research themes tackled by the different research groups, interaction with the private sector vary from good to excellent with some outstanding aspects such as creation of a spin-off company or licensing of a patent but there is still room for improvement especially concerning the unit's outreach activities. 34 PhDs were trained during the last reporting period which reveals a full use of the unit training capacity. The PhD display a very good scientific output as a whole. However, involvement in training through research is unevenly shared between groups as the team located on the Marseilles Luminy campus is understandingly more active in this respect. The last period witnessed a change in the management structure of BVME. A new "outside" BVME director was only very recently appointed who will tackle the difficult question of building a new scientific framework and project for the unit. Although the research teams have individually finalized research projects in line with the quality of their outputs, the unit project is at such a preliminary stage of common reflexion and discussion that the HCERES panel expressed the wish not to assess it at this stage.