GEC - Génie enzymatique et cellulaire

Rapport Hcéres

HCERES

High Council for the Evaluation of Research and Higher Education

Department of Research Evaluation

report on research unit:

Enzyme and Cell Engineering

GEC

under the supervision of the following institutions and research bodies:

Université de Technologie de Compiègne - UTC

Université de Picardie Jules Verne

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]	*In the name of the experts committee,*[2]
Michel Cosnard, president	Leif Bülow, 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:	Enzyme and Cell Engineering
Unit acronym:	GEC
Label requested:	UMR
Current number:	FRE 3580
Name of Director (2016-2017):	Mr Karsten HAUPT
Name of Project Leader (2018-2022):	Mr Karsten HAUPT

Expert committee members

Chair: Mr Leif BÜLOW, Lund University, Sweden

Experts: Ms Ines GALLAY, CNRS (representative of supporting personnel)

Mr Emmanuel TETAUD, CNRS (representative of the CoNRS)

Scientific delegate representing the HCERES:

Mr Alexandre de BREVERN

Representatives of supervising institutions and bodies:

Mr Bruno BACHIMONT, UTC

Mr Mohammed BENLAHSEN, UPJV

Mr Alain LEMAIRE, CNRS

Mr Bruno MIROUX, CNRS

Heads of Doctoral Schools:

Mr Olivier GAPENNE, ED N°71, « Sciences pour l'ingénieur »

Mr Jérôme PELLOUX, ED N°585, « Sciences, Technologie, Santé »

1 • Introduction

History and geographical location of the unit

The Enzyme and Cell Engineering unit has existed for more than forty years and is one of the pioneers of industrial biotechnology in France. For several years, the unit has been located at two sites (Compiègne and Amiens) including the Universities of Technology (UTC) in Compiègne and the University of Picardie Jules Verne (UPJV) in Amiens.

Management team

For this five-year contract, the management team consists of a director, Mr Karsten HAUPT, and an assistant director, Mr Alain FRIBOULET. For the upcoming five-year contract, the management team will consist of the same director, Mr Karsten HAUPT and, Ms Catherine SARAZIN as assistant director. They will be in charge with the laboratory board of science policy and all that pertains to the unit life.

HCERES nomenclature

Principal: SVE2 Cell Biology, Imaging, Molecular Biology, Biochemistry, Genomics, Systemic Biology, Development, Structural Biology;

Secondary: ST4 Chemistry.

Scientific domains

During the last 40 years, the Enzyme and Cell Engineering unit (GEC) has acquired a strong national and international recognition in the field of biotechnology and more particularly in biocatalysis, plant biotechnology including biosourced materials and molecules as well as biomimicry. This unit aims at combining a better understanding of cellular and biological processes with the application of novel biotechnological approaches and technologies.

Unit workforce

Unit workforce	Number on 30/06/2016	Number on 01/01/2018
N1: Permanent professors and similar positions	14	15
N2: Permanent researchers from Institutions and similar positions	3	4
N3: Other permanent staff (technicians and administrative personnel)	9	11
N4: Other researchers (Postdoctoral students, visitors, etc.)	4	
N5: Emeritus	0	
N6: Other contractual staff (technicians and administrative personnel)	2	
N7: PhD students	16	
TOTAL N1 to N7	**48**	
Qualified research supervisors (HDR) or similar positions	12	

Unit record	From 01/01/2011 to 30/06/2016
PhD theses defended	41
Postdoctoral scientists having spent at least 12 months in the Unit	15
Number of Research Supervisor Qualifications (HDR) obtained during the period	3

2 • Assessment of the unit

Global assessment of the unit

Established 40 years ago, the Enzyme and Cell Engineering unit is a laboratory with an excellent expertise, a maturity and a solid competence in the scientific area called “bioinspiration”, which could be revealed by its leadership in the domain (more than 130 publications, 8 patents and 55 invited communications), by its ability to develop new approaches and by its recognition in both France and abroad. It is also deeply involved at the interface between academic research and the industrial development (PIA ITE PIVERT). In addition, it has a strong involvement in European networks / projects (e.g., ITN Marie Curie, COST new Action) and is fully integrated into its local environment where it plays a leading role (belonging to the two universities UTC and UPJV, participating in the FR CNRS 3417, being involved in the Sorbonne Universités).

The unit has recently been reorganized into two main themes, each of which is divided into two sub-themes. This new structure took into account the evolution of certain research themes of the unit, as well as the societal demands, the evolution of the staff and the recommendations formulated in the previous AERES and CNRS reports. The scientific strategy of the unit has always been to develop a deeper understanding of living systems and more particularly studies on plant metabolism and the characterization of biocatalytic diversity. The research is based on a biotechnological approach largely focusing on the creation of systems mimicking the behaviour of living organisms in order to develop new applications. The research carried out by the unit is of an excellent level in its field, several researchers of the unit are well recognized nationally and internationally and one researcher is clearly a scientific leader in his field (coordinates 5 European networks, many contracts with Big-pharma, chairman organiser of the international conference MIP2012, articles and interviews in international scientific magazines). The unit has a voluntary policy of pooling finances and has set up an organization of technical support services for research in the form of transversal platforms. The weakness of the unit that had been noted in the previous AERES report in terms of the demographic dynamics of its staff (aging group leader), now is partly resolved. However, the major weakness of the unit still seems to be the lack of clearly defined research goals.