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ESE - Écologie et santé des écosystèmes

Rapport Hcéres

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HCERES

High Council for the Evaluation of Research
and Higher Education

Research units

HCERES report on research unit:

Ecology and Ecosystem Health

ESE

Under the supervision of
the following institutions
and research bodies:

Agrocampus Ouest - Institut supérieur des sciences
agronomiques, agroalimentaires, horticoles et du
paysage

Institut National de Recherche en Agronomie - INRA

HCERES

High Council for the Evaluation of Research
and Higher Education

Research units

In the name of HCERES,¹

Michel COSNARD, president

In the name of the experts committee,²

Sergi SABATER, chairman of the committee

Under the decree N^o2014-1365 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: Ecology and Ecosystem Health

Unit acronym: ESE

Label requested: UMR

Current number: 985

**Name of Director
(2015-2016):** Mr Hervé LE BRIS

**Name of Project Leader
(2017-2021):** Mr Hervé LE BRIS

Expert committee members

Chair: Mr Sergi SABATER, Universitat de Girona, Spain

Experts:

- Mr Olivier BONATO, IRD (representative of the CNECA)
- Mr Pierre FEDERICI, CNRS
- Mr Pierre FRÉON, IRD
- Ms Emmanuelle PORCHER, MNHN (representative of the CSS Inra)
- Mr Filip VOLCKAERT, University of Leuven, Belgium

Scientific delegate representing the HCERES:

Mr Gabriele SORCI

Representatives of supervising institutions and bodies:

Mr Thierry CAQUET, Inra EFPA

Ms Emmanuelle CHEVASSUS LOZZA, Agrocampus Ouest

Head of Doctoral School:

Ms Nathalie THERET, Doctoral School n° 92 “Vie-Agro-Santé”

1 • Introduction

History and geographical location of the unit

The unit was created the 1st January 2008, by merging the unit “Écobiologie et Qualité des Hydrosystèmes Continentaux”, the team “Écologie Halieutique” of the unit “Méthodes et Études des Systèmes Halieutiques”, and the team “Gestion des Populations Invasives” of the unit “Station commune de recherche en ichthyophysiologie, biodiversité et environnement” in Rennes.

Most of the unit members are located at Agrocampus Ouest, but a few members are based at the Beaulieu Campus.

The unit has been moving several times during the last three years due to the renewal of the buildings in the Agrocampus Ouest. The new building should be available at the end of 2017.

Management team

Mr Hervé LE BRIS is the head of the unit, assisted by a deputy head (Mr Jean-Marc ROUSSEL).

HCERES nomenclature

Principal: SVE2_LS8 Évolution, écologie, biologie des populations.

Scientific domains

The title of the unit is “Ecology and Ecosystem Health”, and as such it links aspects of stress ecology associated to human activities with the responses of aquatic ecosystems, especially at the interface between freshwater and coastal marine ecosystems.

Unit workforce

Unit workforce	Number on 30/06/2015	Number on 01/01/2017
N1: Permanent professors and similar positions	11	11
N2: Permanent researchers from Institutions and similar positions	9	9
N3: Other permanent staff (technicians and administrative personnel)	13	13
N4: Other professors (Emeritus Professor, on-contract Professor, etc.)	1	
N5: Other researchers from Institutions (Emeritus Research Director, Postdoctoral students, visitors, etc.)	6	
N6: Other contractual staff (technicians and administrative personnel)	3	
N7: PhD students	8	
TOTAL N1 to N7	51	
Qualified research supervisors (HDR) or similar positions	13	

Unit record	From 01/01/2010 to 30/06/2015
PhD theses defended	20
Postdoctoral scientists having spent at least 12 months in the unit	5
Number of Research Supervisor Qualifications (HDR) obtained during the period	5

2 • Overall assessment of the unit

Introduction

The unit combines aspects of stress ecology with the responses of aquatic ecosystems, especially in the interphase between freshwater and coastal marine ecosystems.

Global assessment of the unit

The unit has made good progress with respect to the previous evaluation, regarding scientific output, recognition, integration between research teams, and has maintained strong interactions with stakeholders. The unit is producing good quality applied and basic research in a variety of fields. The unit has managed adequately the difficulties faced during this last period in particular those related with housing and departure of staff, and associated conflicts.

There is still room for improvement of the conceptual articulation between the different areas of research with regard to the scientific questions being tackled. This gives the impression that addition prevails over synergy. This situation is partly due to the institutional missions the unit has to accomplish (focusing, for Inra, on continental systems, and, for Agrocampus Ouest, mostly on marine systems), but the interaction between the research axes has to be improved.

The research production has unequal originality and novelty among the different teams of the unit. Traditional research goals have not yet been complemented with others dominating the modern debate, and this, in some areas, justifies the unit's absence of leadership with respect to the French and international standards: while some areas are producing research outputs of international standards, others are producing correct, but not highly innovative, and low-impact academic research. The same also applies to the international recognition of the research being done at the unit, which has recognised international reputation in some areas but not so much in others.

Strengths and opportunities in the context

The unit has a very good and broad expertise in freshwater and marine ecology, both in the applied and basic science fields.

The unit is enjoying a very good working spirit in the whole spectrum of the staff. This is an opportunity for enhancing interactions.

The "Sélune" project is an opportunity for a high profile common project that could bring international reputation to the unit.

The unit has produced an excellent bilingual, updated, website that reflects the internal dynamics of the group.

The new planned facilities, that should be available by 2017, will probably enhance the potential for collaboration within the unit. The unit has the necessary scientific complementarities to achieve high ground goals, and a better environment may indeed help.

There is a nice balance between teaching and research that benefits to all unit members.

The unit receives an excellent support from the two supervising bodies, in terms of promoting freshwater and marine research.

Weaknesses and threats in the context

Even though the number of published papers in high profile journals has increased in the last years, it remains relatively modest.

The unit has been suffering from repeated moving between buildings under renovation.

There is a threat related to the uncertainties of funding, and of replacement of technical and academic staff who has left the unit during the last years.

The teams are weakly connected with each other, partly due to separate research arenas (freshwater vs. marine systems). This leads to a lack of encompassing scientific goals, limiting the access to a high standing international visibility.

The diversity of funding sources, made of small projects (each with its own rules), generates additional administrative workload and scientific dispersion.

The lack of a well-defined organisational structure of the technical platforms might result in lower efficiency. Also, there is no clear vision on the integration of the unit's platforms with other high-tech platforms in the region.

Only a few PhD students are from abroad, and the same observation applies to post-docs.

The number of researchers visiting for sabbatical in the unit is low, as is low the number of researchers of the unit doing stays in other labs.

Recommendations

Even though efforts have been made to expand links with researchers outside the lab, and although a general improvement is obvious as compared to the previous evaluation period, the promotion of internationality should be a priority in many aspects within the unit. This should pave the way for international leadership.

The unit should have a more proactive strategy to attract post-docs and visiting scientists from abroad, and to increase the number of PhD students.

Crosstalk between research teams would lead to a broader scientific impact. Focusing on this enhanced internal interaction should have implications for management, stimulate staff mobility (internal, national and international), and lead to better support for obtaining competitive funds. If ambitious, one may think of applications to H2020, ERC, and Marie Curie calls.

The unit might benefit from a better strategic thinking in terms of project definition, funding sources, and organisation of technical platforms. This means allocating human and financial resources to reinforce the topics that have been identified as being among the unit best strengths.

It is highly desirable that the housing issue is rapidly solved.