SILVA

Rapport Hcéres

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HCERES

High Council for the Evaluation of Research
and Higher Education

report on research unit:

SILVA

under the supervision of the following institutions and research bodies:

Université de Lorraine

AgroParisTech - Institut des sciences et industries du vivant et de l'environnement

Institut National de la Recherche Agronomique - INRA

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]

Frits Mohren, chairman of the committee

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:	SILVA
Unit acronym:	SILVA
Label requested:	UMR
Current number:	
Name of Directors (2013-2017):	Mr Jean-Marc GUEHL (EEF)
	Mr Thiéry CONSTANT (LERFoB)
Name of Project Leader (2018-2022):	Mr Damien BONAL

Expert committee members

Chair:	Mr Frits MOHREN, Wageningen University and Research, Netherlands
Experts:	Mr Jean-Marc BONNEFOND, INRA (representative of supporting personnel)
	Mr Federico MAGNANI, University of Bologna, Italy
	Mr Rupert SEIDL, University of Natural Resources and Life Sciences Vienna, Austria
	Mr François TARDIEU, INRA Montpellier
	Mr Bernard THIBAUT, CNRS Montpellier

Scientific delegate representing the HCERES:

Mr Serge DELROT

Representatives of supervising institutions and bodies:

Mr Thierry CAQUET, INRA

Mr Thierry DORÉ, AgroParisTech

Mr Andreas GUTSFELD, Université de Lorraine

Head of Doctoral School:

Mr Stéphane DESOBRY, Head of Doctoral School n°410, "Science and Engineering - Resources Process Products Environment"

1 ● Introduction

History and geographical location of the unit

The UMR SILVA is a new unit resulting from a merger of the previous units UMR 1137 EEF and UMR 1092 LERFoB, that will enter into force at the beginning of the five-year plan 2018-2022. The unit combines staff from AgroParisTech, INRA (EFPA division), and the University of Lorraine.

The unit is located in three geographical locations: the INRA centre in Nancy at Champenoux, the Nancy location of AgroParisTech, and the University of Lorraine at Vandœuvre-lès-Nancy. All three sites are within 20 km of each other.

Management team

The former directors of EEF and LERFoB were Mr Jean-Marc Guehl and Mr Thiéry Constant respectively. For the new contract, the director will be Mr Damien Bonal and deputy directors will be Mr Thiéry Constant, Mr Bruno Ferry and Mr Yves Jolivet.

HCERES nomenclature

SVE1 Agronomie, Biologie Végétale, Écologie, Environnement, Évolution.

Scientific domains

The scientific domains of SILVA encompasses the previous domains of EEF and LERFoB: ecology and ecophysiology of trees and forests, wood science, population dynamics and management of forest ecosystems, and long-term dynamics, vulnerability, and resilience of ecosystems under changing environmental influences.

Unit workforce

Unit workforce	Number on 30/06/2016	Number on 01/01/2018
N1: Permanent professors and similar positions	18	17
N2: Permanent researchers from Institutions and similar positions	32	29
N3: Other permanent staff (technicians and administrative personnel)	62	69
N4: Other researchers (Postdoctoral students, visitors, etc.)	2	
N5: Emeritus	1	
N6: Other contractual staff (technicians and administrative personnel)	3	
N7: PhD students	20	
TOTAL N1 to N7	**138**	
Qualified research supervisors (HDR) or similar positions	20	

Unit record	From 01/01/2011 to 30/06/2016
PhD theses defended	33.5
Postdoctoral scientists having spent at least 12 months in the unit	15
Number of Research Supervisor Qualifications (HDR) obtained during the period	7

2 • Assessment of the unit

Global assessment of the unit

The future UMR SILVA supported by INRA, AgroParistech and the University of Nancy Lorraine results from the merge between of EEF (UMR 1137, INRA and University of Nancy Lorraine) and LERFoB (UMR 1092, INRA and AgroParisTech). It will comprise three research teams: PHARE (Tree Physiology in Response to the Environment), TREEPoD (TREE functioning and POpulation Dynamics), and DYVE (Long Term Dynamics of Ecosystems under low Anthropization). The research teams are composed of members of both previous units (EEF and LERFoB).

The research relates to the interactions between environmental factors and forest ecosystems, which is analysed at various levels of integration, from basic processes (hydraulics, metabolism, transcripts), to higher levels (tree, ecosystem, landscape and species distribution area). Corresponding to this, the time scales comprise a wide spectrum, from short-term, near-instantaneous physiological processes to annual and multi-annual ecosystem dynamics at century or even millennium scales. The scientific focus has evolved and expanded from understanding structure and function of trees and forests in relation to species properties, functional traits, and site conditions, to integration and synthesis, the role of forest ecosystems in society in the context of global change, and the need for adaptive forest management to safeguard forest futures, and the future of the forest-based sector, the latter which is of particular economic importance in the north-east region of France.

The new unit has great potential, based on the past performance of the constituting units, the focus of the activities, and the availability of technical support and support facilities. Scientific output is abundant and of high quality, but also variable across the teams. Some individuals and groups have high international reputation and profile, and are well embedded in international networks. Others may have strong links to national forestry practice, but are less involved in fundamental, innovative research on basic concepts, and hence may have less profile internationally. The new SILVA unit has very good interactions with the socio-economic environment, but it has not yet developed strong partnership with European practitioners in forestry. The SILVA unit has an excellent infrastructure (field plots, laboratories, data management facilities including GIS), combined with opportunity for continuity in research and access to training and innovative and risk-bearing research through PhD projects and postdocs. Involvement in training is good but may still progress in terms of students and internationalisation. The organisation of the unit allows fundamental research as well as focussed, mission-oriented research and a high level of ambition, unique in Europe. There is continuity in the combination of upstream and applied research in the study of processes from the cell and organ level to the landscape level. The unit has the strong potential to become a leading research actor on the topics of long-term dynamics and tree mortality in the future, but will have to overcome the organisational and scientific difficulties linked to multisite localization.