Research evaluation

FINAL RESUME ON THE RESEARCH UNIT

EGFV - Ecophysiology and Functional Genomics of Grapevine

UNDER THE SUPERVISION OF THE FOLLOWING INSTITUTIONS AND RESEARCH BODIES:

Institut national de recherche pour l'agriculture, l'alimentation et l'environnement - INRAE
Université de Bordeaux
Bordeaux Sciences Agro - École nationale supérieure des sciences agronomiques

EVALUATION CAMPAIGN 2020-2021

GROUP B

Report published on July, 08 2021

High Council for evaluation of research and higher education

In the name of Hcéres[1]:	In the name of the experts committee[2]:
Mr Thierry Coulhon, President	Mr Mario Pezzotti, Chairman of the committee

Under the decree No.2014-1365 dated 14 November 2014,
[1] The president of Hcéres "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 experts committee". (Article 11, paragraph 2).

Tables in this document were filled with certified data submitted by the supervising body on behalf of the unit.

UNIT PRESENTATION

Unit name:
EGFV - Ecophysiology and Functional Genomics of Grapevine
Unit acronym:
EGFV
Current label and N°:
UMR 1287
ID RNSR:
200717393E
Application type:
Renewal
Head of the unit (2020-2021):
Ms Nathalie Ollat
Project leader (2021-2025):
Ms Nathalie Ollat
Number of teams and/or themes:
4

EXPERTS COMMITTEE MEMBERS

Chair:	Mr Mario Pezzotti, Università degli Studi di Verona, Italy
Experts:	Ms Nadia Bertin, INRAE, Avignon (representative of INRAE CSS) Mr Christophe Bertsch, Université de Haute Alsace, Colmar (representative of the CNECA) Mr Stéphane Herbette, Université Clermont-Auvergne (representative of CNU) Mr Stéphane Munos, INRAE, Castanet Tolosan (supporting personnel)

HCÉRES REPRESENTATIVE

Mr Thierry Ameglio

REPRESENTATIVES OF SUPERVISING INSTITUTIONS AND BODIES

Ms. Sabine Brun-Rageul, Bordeaux Sciences Agro
M. Jérôme Joubès, department « sciences de l'environnement », Université de Bordeaux
M. Olivier Lavialle, INRAE Nouvelle Aquitaine
Ms. Claire Lavigne, INRAE AGROSYSTEM department
M. Philippe Moretto, Université de Bordeaux
M. Peter Rogowsky, INRAE BAP department
M. Martin Teichmann, Doctoral school « sciences de la vie et de la santé », Université de Bordeaux

INTRODUCTION

HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

The UMR 1287 « Ecophysiology and Functional Genomics of Grapevine » is located in Bordeaux, Aquitaine region, a famous French wine production region. It was created in January 2007, by merging two INRAE groups, one from the AgroEcoSystem ("Grapevine Ecophysiology and Agronomy") and the second from the BAP ("Rootstock Genetics") INRAE divisions and two groups formerly attached to the University of Bordeaux 1 ("Functional Genomics and Quality of Grape Berry") and Bordeaux 2 ("Assimilate Transport"). The University group "Epigenetic regulation of fruit development" joined the unit in 2016.

RESEARCH ECOSYSTEM

EGFV is a joint research unit under the umbrella of INRAE, Bordeaux University and Bordeaux Science Agro. It is attached to the Doctoral School "Sciences for Life and Health". It is a major component of the "Institut des Sciences et de la Vigne (ISVV), a semiautonomous college, including four UMRs (EGFV, SAVE, Gretha, UR Oenologie), Vitinov (extension service) and the INRAE experimental unit Vigne, which hosts long term field experiments (VITADAPT and GREFFADAPT) and germplasm collections. EGFV and SAVE constitute the joint transfer unit UMT SEVEN with the Institut Francais de la Vigne et du Vin (IFV). EGFV was part of the research federation "Integrative Biology and Ecology", which gave rise in 2019 to the scientific department "Environmental Sciences" of Bordeaux university with the support of the LabEx COTE (IDEX 2010-2020), gathering several research units all centred on future environmental and societal challenges. The "Bordeaux Plant Science" (BPS) collaborative project is under development in this frame. EGFV owns, shares or has access to multiple facilities within the "Environmental Sciences" department, including confined greenhouses for GMOs and phenotyping platform (Bordô).

HCÉRES NOMENCLATURE AND THEMATICS OF THE UNIT

SVE1-1

The scientific thematic of EGFV is to analyze the responses of grapevine genotypes (fruiting and rootstock varieties) to environmental constraints and to dissect the underlying molecular, physiological and (epi) genetic mechanisms, using multidisciplinary and integrative biology approaches.

MANAGEMENT TEAM

Director: Ms Nathalie Ollat from April 2018 - Mr Serge Delrot before April 2018

Deputy Directors: Mr Philippe Gallusci - Mr Philippe Vivin before April 2018

UNIT WORKFORCE

Active staff	**Number 06/01/2020**	**Number 01/01/2022**
Full professors and similar positions	5	4
Assistant professors and similar positions	10	10
Full time research directors (Directeurs de recherche) and similar positions	0	0
Full time research associates (Chargés de recherche) and similar positions	4	6
Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.")	0	0
High school teachers	0	0
Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)	25	27
Permanent staff	**44**	**47**
Non-permanent professors and associate professors, including emeritus	2	

Non-permanent full time scientists, including emeritus, post-docs (except PhD students)	6	
PhD Students	8	
Non-permanent supporting personnel	2	
Non-permanent staff	18	
Total	**62**	**47**

GLOBAL ASSESSMENT OF THE UNIT

The unit enjoys a considerable visibility and prestige internationally as a reference center for grape ecophysiology, viticulture, genetic and epigenetic research thanks to its excellent record of publications in the last five years and to the presence of highly regarded scientists. EGFV was structured in two themes (Grafted Plant and Berry Quality) in the present period and will be structured in four themes (ADAPT, ROOTi, QUALyGrapE and GENEPI) for the next period.

The publication output is excellent both in terms of number (164 publications) (30 % more as compared to the previous period) and equally distributed between the two themes (Grafted Plant or Berry Quality with 65 and 70 publications respectively and 26 in collaboration corresponding to an average of 1.68 publications per full-time equivalent as compared to 1.25 for the previous evaluation period) and of impact (22 % in journals characterized as exceptional such as *Plant Physiology, Plant Cell Environment, Journal Experimental Botany*, and 53 % in journals characterized as excellent such as *Plant science, Planta, Theorical and Applied Genetics)*. Its ability in attracting external funding is very good (one ERA-NET, three European projects (KBBE, Life and Interreg), three ANRs, …) for a total 3.69 M€ over the period but is heterogenous among the two themes and largely in favor of the Grafted Plant Theme. The interactions with industries are excellent (27 Industrial and R&D contracts with 16 for the Grafted Plant and 7 for the Berry Quality Themes) as well as the activities to communicate the excellent science performed within the unit to a broader public. Of note, EGFV research on the impact of temperature on French viticulture has been directly applied by the inclusion of new grapevine varieties in the regulations of Bordeaux wine appellation. The unit has shown to excel in teaching and training of PhD students (23 PhD in total and 15 PhD defended during the period), even though a bigger effort could and should be made to attract a higher number of foreign PhD students and of post-doctoral scientists in general to rejuvenate the unit's daily life and make the working place more international. The management activities over the last five years have been excellent but the unit needs to increase the scientific animation activities among scientists and among PhD students and post-doctoral fellows. The presence of different technological tools that serve the needs of the different themes is definitely a great asset of the unit even though careful and constant monitoring is needed to make sure that they stay up to date in the latest technological developments to continue to be relevant for the research themes. This is the case especially for the tools dedicated to gene validation and phenotyping and for the bioinformatic platform that is going to be created where the efficacy of the platform model for serving the unit needs has to be properly assessed. The success of the unit in the next five years term will be largely determined by its ability to refocus its activities to move swiftly in the postgenomic era through a greater integration of its more basic genomic research and its more applied trait-focused research and will depend strongly upon the identification of clear biological questions and/or relevant traits onto which to apply the sophisticated tools, methods and technologies that have been and will be developed.

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