

HCERES

High Council for the Evaluation of Research
and Higher Education

Research units

HCERES report on research unit:

Institute of Functional Genomics

IGFL

Under the supervision of the following
institutions and research bodies:

École Normale Supérieure de Lyon - ENS Lyon

Centre National de la Recherche Scientifique - CNRS

Institut National de la Recherche Agronomique - INRA

Université Claude Bernard Lyon 1 - UCB

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In the name of HCERES,¹

Didier HOUSSIN, president

In the name of the experts committee,²

Thomas C. G. BOSCH, chairman of the
committee

Under the decree No.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 result of the evaluation by the experts committee, the composition of which is specified below.

The assessments contained herein are the expression of an independent and collegial deliberation of the committee.

Unit name:	Institut de génomique fonctionnelle de Lyon
Unit acronym:	IGFL
Label requested:	UMR
Present no.:	5242
Name of Director (2014-2015):	Mr Vincent LAUDET
Name of Project Leader (2016-2020):	Ms Florence RUGGIERO

Expert committee members

Chair:	Mr Thomas C. G. BOSCH, Kiel Life Science, Germany
Experts:	Ms Laure BALLY-CUIF, Institute of Neurobiology Alfred Fessard, Gif-sur-Yvette (representative of the CoNRS)
	Mr Jean François BRUNET, IBENS, Paris
	M Thierry DARRIBERE, Université Pierre et Marie Curie (representative of CNU)
	Mr Tomislav DOMAZET-LOŠO, Ruđer Bošković Institute, Zagreb, Croatia
	Mr Michel GOLDBERG, Université Paris Descartes
	Mr Krzysztof JAGLA, Université de Clermont-Ferrand
	Mr Jean-Stéphane JOLY, Institute of Neurobiology Alfred Fessard, Gif-sur-Yvette (representative of INRA)
	Mr Stefan SCHULTE-MERKER, Hubrecht Institute, The Netherlands

Scientific delegate representing the HCERES:

Ms Maryam MEHRPOUR

Representatives of the unit's supervising institutions and bodies:

Ms Germain GILLET, Université Lyon 1

Mr Laurent KODJABACHIAN, CNRS

Ms Françoise MONEGER (representative of ED n° 340 « Biologie Moléculaire Intégrative et Cellulaire »)

Mr Jean-François PINTON, ENS Lyon

Ms Pascaline TOUTOIS, CNRS

1 • Introduction

History and geographical location of the unit

The Institute of Functional Genomics (IGFL) is part of the Charles Mérieux Gerland site of the new university campus of Lyon located on a main road linking the Pasteur bridge to the south of the Lyon metropolitan area.

The Gerland site includes ENS de Lyon, Université Lyon 1 and public research laboratories. These are multi trustee laboratories including the IGFL, IBCP (Institute of Biology and Protein Chemistry), LBMC (Laboratory of Molecular and Cellular Biology), RDP (Laboratory of Plant Reproduction and Development), CIRI (International Center for Infectiology Research) for Biology. The Gerland site also comprises labs or departments in Maths, Physics, Chemistry, the complex systems institute as well as the humanities / social studies campus (Descartes).

The IGFL is a young institute and moved to a new modern research building in August 2012. The IGFL is a 3200m² building including 1500 host labs core facilities, offices and services. This new building is well equipped, displaying the most recent genomic technologies.

Management team

Mr Vincent LAUDET, supported by the deputy director Ms Françoise BLEICHER, heads IGFL since 2008. In 2016-2020, Ms Florence RUGGIERO will lead the IGFL, supported by the deputy director Mr Frédéric FLAMANT. To ensure a smooth transition between the present and future direction, she has been nominated in September 2014 deputy director of IGFL.

HCERES nomenclature

Principal: SVE1_LS3

Secondaire: SVE2_LS8, SVE1_LS1

Unit workforce

Unit workforce	Number as at 30/06/2014	Number as at 01/01/2016
N1: Permanent professors and similar positions	15	13
N2: Permanent researchers from Institutions and similar positions	18	14
N3: Other permanent staff (without research duties)	21	22
N4: Other professors (Emeritus Professor, on-contract Professor, etc.)		
N5: Other researchers (Emeritus Research Director, Postdoctoral students, visitors, etc.) Includes contract personnel with research duties (not post docs)	15	14
N6: Other contractual staff (without research duties)	12	8
TOTAL N1 to N6	81	71

Unit workforce	Number as at 30/06/2014	Number as at 01/01/2016
Doctoral students	16	
Theses defended	37	
Postdoctoral students having spent at least 12 months in the unit	7	
Number of Research Supervisor Qualifications (HDR) taken	5	
Qualified research supervisors (with an HDR) or similar positions	21-	

2 • Overall assessment of the unit

Global assessment of the unit

The IGFL is an outstanding research institution in the European landscape with unique profile. The striking feature of the IGFL is the thematic coherence which enables both strong collaboration and intellectual exchanges on fundamental questions in evolution, development and integrative physiology. The IGFL's research in functional genomics aims to elucidate how the whole genome controls the development, function and evolution of animal species. The teams that currently constitute the IGFL are interested by 3 research axes:

- I) genomics of adaptation and evolution (teams 5, 6, 12,13);
- II) development and regeneration (teams 1, 5, 8, 9);
- III) Integrative physiology and physiopathology (teams 3, 6, 7, 8, 9, 11).

It was composed of 12 teams when created in 2006. The strong leadership, capacity of the managing directors together with the help of a carefully selected and high profile SAB in recruiting outstanding scientists to the IGFL for

the next 5 years includes the emergence of 4 new teams (12 teams in total for the next 5 years (numbered 1-13 with skip). Among these 12 teams, 1 is led by a women.

Most of new external team Leaders (national and international) whose have recently established their group at the IGFL have already obtained highly competitive grants (ANR- Chaire d'Excellence, ATIP-ERC). This IGFL recruitment policy has enhanced diversity of the research topics, technology and model organisms. Several teams develop research programs on mineralized tissues, molecular endocrinology, embryonic development and the genomics of adaptation, physiopathology and oncogenesis. The successes of these new-recruited team leaders have also contributed to increasing their international visibility and have led to hiring a significant number of non-French post-docs. Most of the team leaders at IGFL have national and international recognition (national and international highly competitive grants, memberships, numerous invited conferences, chair of meetings or member of organization committee, CNRS Bronze medal).

The IGFL has substantially developed large-scale and global transcriptomic and genomic approaches through the development of an in-house Next Generation Sequencing (NGS) platform. IGFL also facilitated the diversification of species (non-model organism) used in the institute, by the establishment and expansion of in-house animal facilities including that for aquatic and semi-aquatic animals, drosophila, zebrafish and rodents. The IGFL can also benefit from the state-of-the art facilities and the broad panel of technologies and platforms provided by the Federation of the Technical platform on the side of Lyon Gerland (SFR BioScience-Gerland).

The IGFL receives strong support from the university and the ENS of Lyon that has allowed developing a strong and convincing program for training young biologists. Among the IGFL research staff 15 professors and assistant professors are from the ENS of Lyon and the Université Claude Bernard Lyon 1. This strong link between research and teaching promotes national visibility and helps to attract talented students to the IGFL. The Institute is nicely organized. The spirit in the "IGFL" is characterized by enthusiasm and a strong community feeling to which all members from all academic levels, including PhD students, postdocs, scientists, technicians and the team leaders, equally contribute. All the needed committees have been set up, and they appear to be nicely organized and very efficient.

Strengths and opportunities

The IGFL has a panel of excellent to outstanding teams with complimentary expertise and is housed in a brand new modern research building offering state-of-the art facilities.

There is impressive dynamics in recruiting excellent junior scientist at a regular basis in combination with diversity of experimental systems at the IGFL.

The international nature of the PhD student, post doc and team leader recruitments.

The reputation of team leaders and a strong track record of publications in journals with high to very high impact factors.

High diversity of the conventional and unconventional model.

Weaknesses and threats related to the context

A challenge for the future will be to keep up with the spirit and vision of the founder generation of the IGFL in times of constantly decreasing funding for basic research. It also will be important to stabilize the limited size of the unit (12 teams). Moreover, the limited number of permanent positions (lab manager, researcher) can fragilize young teams. The presence of a state-of-the art equipped seminar room or lecture theatre would certainly support scientific communication within the new building.

Recommendations

The IGFL currently benefits from a unique and internationally recognized identity. The recommendation, therefore, is to maintain by all means the unique features offered by the IGFL in the context of the planned association with the with UMR 5242 (plant reproduction & development, PRD directed by Mr Teva VERNOUX) and UMR 5239 (Laboratory of Molecular Biology of the cell, LBMC directed by Mr Pierre JALINOT), within a new ICB (Integrative Cell Biology) center.