Research evaluation

FINAL RESUME ON THE RESEARCH UNIT:
Institute of Functional Genomics (IGF)

UNDER THE SUPERVISION OF THE FOLLOWING INSTITUTIONS AND RESEARCH BODIES:
Université de Montpellier
Centre national de la recherche scientifique – CNRS
Institut national de la santé et de la recherche médicale – Inserm

EVALUATION CAMPAIGN 2019-2020
GROUP A

Report published on May, 12 2020

High Council for evaluation of research and higher education

In the name of Hcéres[1]:

Nelly Dupin, Acting President

In the name of the experts committee[2]:

Bruno Goud, Chairman of the committee

Ole Andreassen, 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 data submitted by the supervising body on behalf the unit.

UNIT PRESENTATION

Unit name:	Institute of Functional Genomics
Unit acronym:	IGF
Current label and N°:	UMR 5203 and U 1191
ID RNSR:	200717476V and 201120699F
Application type:	Restructuration
Head of the unit (2019-2020):	Mr Jean-Philippe PIN
Project leader (2021-2025):	Mr Philippe MARIN
Number of teams and/or themes:	21

EXPERTS COMMITTEE MEMBERS

Chairs:	Mr Bruno GOUD, Institut Curie, Paris Mr Ole ANDREASSEN, University of Oslo, Norway
Experts:	Mr Stylianos E ANTONARAKIS, University of Geneva, Medical School, Geneva
	Mr Pierre BOURDONCLE, Institut Cochin, Paris (supporting personnel)
	Ms Isabelle BRUNET, Collège de France, Paris (representative of Inserm CSS)
	Mr Stéphane CHARPIER, ICM, Paris
	Ms Valérie CORONAS, STIM, Poitiers (representative of CoNRS)
	Mr Pierre-Jean CORRINGER, Institut Pasteur, Paris
	Mr Philippe DE DEURWAERDERE, INCIA, Bordeaux (representative of CNU)
	Ms Hélène DUEZ, Institut Pasteur, Lille (representative of Inserm CSS)
	Mr Adriaan IJZERMAN, Leiden University, Leiden
	Mr Serge KASPAROV, University of Bristol, Bristol
	Mr Jose NARANJO, CNB, Madrid
	Mr Jean-François PERRIER, University of Copenhagen, Copenhagen
	Ms Daniela POPA, IBENS-ENS, Paris (representative of CoNRS)
	Ms Valérie SIMONNEAUX, INCI, Strasbourg
	Mr Hervé TRICOIRE, University Paris Diderot, Paris

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Ms Nadia SOUSSI-YANICOSTAS

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Ms Florence NOBLE, CNRS

INTRODUCTION

HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

The Institute of Functional Genomics (IGF) was created in 2005. It originates from the CNRS and INSERM Center of Pharmacology and Endocrinology (CCIPE) (founded in 1982), which focused on the study of drug targets and in the development of innovative pharmacological tools. The IGF focused on the use of **systematic approaches** such as **genomics, proteomics, and medium throughput assays**, for the study of cell signaling processes. It also became affiliated to the University of Montpellier. In parallel, the research program was accompanied by the creation of technological facilities by IGF researchers that are now part of the service unit Biocampus.

A major advance in the development of IGF has been the construction of a new building that opened in 2010, doubling the total surface of the institute. **The current IGF is then composed of two interconnected buildings covering a total of 6,560 m²**. This provided space to new research groups, and to further expend and develop the technological facilities.

The IGF is located within the **Campus Arnaud de Villeneuve**, north of Montpellier, in close proximity to the *hospitals and the new school of medicine*. This is a key location for an Institute devoted to the study of basic principles of biological processes and their roles in pathophysiology, and oriented towards translational research. This campus is composed of three major research units: in addition to the IGF, there is the *Institute of Human Genetics* (IGH) and the *Center for Structural Biochemistry* (CBS). The INSERM regional administration is also located on this site, with laboratory space dedicated to a state of the art imaging facility (MARS). Genopolys, a recent building dedicated to communication and training, offers a conference amphitheater, meeting rooms and laboratories for training sessions directed toward the public, the industry or clinicians. Genopolys is interconnected with the IGH and IGF buildings. IGF is also part of the Pole Rabelais, a local cluster that fosters synergies between research and educational resources in Montpellier.

MANAGEMENT TEAM

Over the review period the management team has consisted of Jean-Philippe PIN as director, assisted of Philippe Lory, deputy director, and Anne Chabannes, General Secretary. Over the next project the management team will consist of Philippe Marin as director and the deputy heads are Thierry Durroux and Nathalie Guérineau, as well as the General Secretary Anne Chabannes.

HCÉRES NOMENCLATURE

SVE4 Neurosciences; SVE5 Physiologie, Cancer; SVE2 Biologie Cellulaire, Moléculaire et Structurale.

THEMATICS

The IGF brings together research teams working in **cellular and intercellular signaling processes** in various areas including neurobiology, cardiac physiology, endocrinology and oncology. The IGF has a multi-disciplinary research making possible the emergence of outstanding projects mixing technologies and various approaches, from structural studies to the clinic. Another important aspect is to put these scientific teams in close proximity of technological facilities, providing them with state of the art technologies in genomics, proteomics, *in vivo* imaging and medium throughput analysis of signaling events.

The goal of IGF is to provide new information in basic science, and also to identify new targets for the development of novel therapies, in the psychiatric, neurologic, cardiologic, endocrine and cancer areas. Thus, a major goal is to study the signaling processes at the structural and molecular levels, and to examine the importance of these processes in pathophysiological contexts and their possible involvement in human diseases. The main objective of the IGF is to reinforce the expertise in studies of the basic mechanisms of cell communication through the development of structural studies, and to promote the translational research, going more into animal studies, and initiating clinical connections.

The main activity of IGF is dedicated to basic research oriented towards the functional genomics of cell-cell communication processes under various physio-pathological conditions. Such processes are being studied in various fields: neuroscience, cardiac physiology, endocrinology, including neuro-endocrinology, and intestine physiology. Studies are conducted to elucidate the basic mechanisms involved in physiological processes and how these can be affected in various pathologies, including neurological and psychiatric diseases, heart dysfunction, diabetes and cancer. The main forces at IGF are concentrated in four programs: i) the study of GPCR signaling, from their structure, allosteric modulation to signaling and pathophysiological involvement; ii) the study of ion channels including voltage-activated calcium channels and ligand-gated channels (glutamatergic and purinergic); iii) signaling networks, at the genetic, protein and cellular levels, and iv) translational and clinical

studies, with the aim to delineate the roles of the basic processes characterized in the first three programs into animals and in human. These four research programs were set up to stimulate and favor scientific and technological interactions between research groups from the different departments. These programs also nicely illustrate the common scientific interest of the IGF research groups despite their different orientations toward neuroscience, physiology or cancer biology.

UNIT WORKFORCE

Institute of Functional Genomics		
Active staff	**Number 06/30/2019**	**Number 01/01/2021**
Full professors and similar positions	14	19
Assistant professors and similar positions	13	16
Full time research directors (Directeurs de recherche) and similar positions	25	25
Full time research associates (Chargés de recherche) and similar positions	41	42
Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.")	0	
High school teachers	0	
Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)	51	51
Permanent staff	**144**	**153**
Non-permanent professors and associate professors, including emeritus		
Non-permanent full time scientists, including emeritus, post-docs (except PhD students)	23	
PhD Students	38	
Non-permanent supporting personnel	23	
Non-permanent staff	**84**	
Total	**228**	**153**

GLOBAL ASSESSMENT OF THE UNIT

Overall the quality of the science is very high and with a high number of publications and high international visibility. The Unit includes several world leading teams and provides a clear added value between teams that mutually reinforce each other, and many publications are co-authored between the IGF teams. The Unit has also a strong ability to attract national and international funding. In particular, it hosts many state of the art platforms and facilities, providing access to modern methodology. The IGF has a high ability to recruit permanent researchers, and many are internationally recognized and present at prestigious conferences.

The scientific plan for the next period is highly innovative and exciting, with a large potential for new discoveries. The Unit has traditionally focused on basic research, while they are now moving into more translational research. The potential of neighboring hospital and university setting could have been leveraged better, and there are some aspects of the organization and structure of the Unit that can be improved. Overall, a highly competitive plan for the next period was presented.

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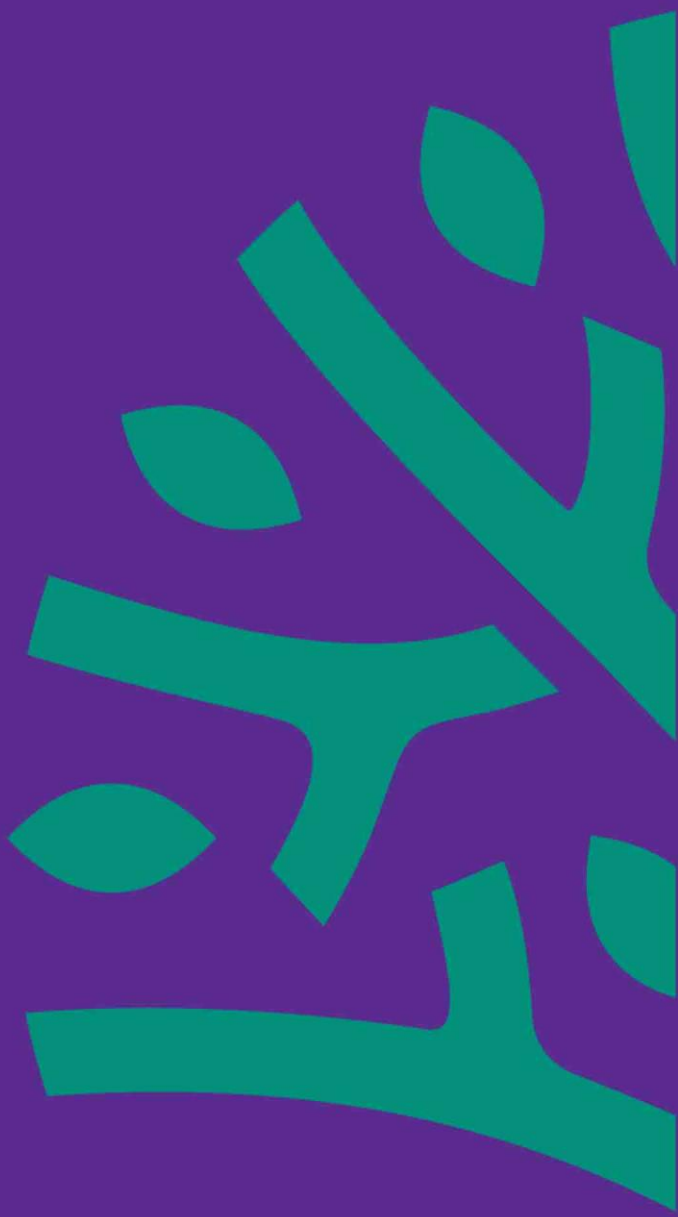

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