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IGBMC - Institut de génétique et de biologie moléculaire et cellulaire

Rapport Hcéres

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HCERES

High Council for the Evaluation of Research
and Higher Education

Department of Research Evaluation

report on research unit:

Institute of Genetics and Molecular and Cellular Biology

IGBMC

under the supervision of
the following institutions
and research bodies:

Université de Strasbourg

Centre National de la Recherche Scientifique - CNRS

Institut National de la Santé et de la Recherche Médicale
- INSERM

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

Phil Avner and Song Tan, chairmen 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 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: Institute of Genetics and Molecular and Cellular Biology

Unit acronym: IGBMC

Label requested: UMR

Current number: CNRS UMR 7104 - Inserm U 964

Name of Director (2016-2017): Mr Bertrand SÉRAPHIN

Name of Project Leader (2018-2022): Mr Bertrand SÉRAPHIN

Expert committee members

Chair: Mr Phil AVNER, EMBL, Monterotondo, Italy, co-President of the committee, President of sub-committee 1
Mr Song TAN, Penn State University, University Park, USA, co-President of the committee, President of sub-committee 2

Experts: Ms Corinne ALBIGES-RIZO, Institut pour l'Avancée des Biosciences, La Tronche
Ms Agnès BERNET, Centre de Recherche de Cancérologie de Lyon
Mr Josh BRICKMAN, Danish Stem Cell Center, Copenhagen, Denmark
Mr Andrew CARTER, MRC Laboratory of Molecular Biology, Cambridge, UK
Mr Jérôme COLLIGNON, Institut Jacques Monod, Paris
Ms Sabine COSTAGLIOLA, Université Libre de Bruxelles, Belgium
Ms Delphine DUPREZ, Laboratoire de Biologie du Développement, Paris (representative of INSERM CSS)
Mr Alexandre ESCARGUEIL, Hôpital Saint-Antoine, Paris (representative of CNU)
Ms Corinne GREY, Institut de Génétique Humaine, Montpellier (representative of CoCNRS)
Mr Cornelius GROSS, EMBL, Monterotondo, Italy
Mr François GUILLONNEAU, Université Paris Descartes, Paris (representative of supporting personnel)

Mr Peter HUNTINK, Eberhard Karls Universität, Tübingen Germany

Ms Isabelle MANSUY, ETH Zürich, Switzerland

Mr Olivier NAMY, Institut de Biologie Intégrative de la Cellule, Orsay

Mr Michael NILGES, Institut Pasteur, Paris

Mr Tom OWEN-HUGUES, University of Dundee, UK

Ms Muriel PERRON, Institut des Neurosciences Paris Saclay, Gif sur Yvette

Mr Félix REY, Institut Pasteur, Paris

Mr Bruno ROBERT, Institut de Biologie Intégrative de la Cellule, Gif-sur-Yvette

Mr Dirk SCHÜBELER, Friedrich-Miescher-Institute for Biomedical Research, Basel Switzerland

Ms Titia SIXMA, Netherlands Cancer Institute, Amsterdam, the Netherlands

Mr Jesper SVEJSTRUP, Francis Crick Institute, Hertfordshire, UK

Mr Peter VERRIJZER, Erasmus University Medical Center, Rotterdam, The Netherlands

Mr Martin VINGRON, Max-Planck-Institut für molekulare Genetik, Berlin, Germany

Scientific delegate representing the HCERES:

Mr Pierre COUBLE

Representatives of supervising institutions and bodies:

Mr Frédéric BOCCARD, CNRS

Ms Catherine FLORENTZ, Université de Strasbourg

Mr Yves Larmet, Université de Strasbourg

Mr Hugues LORTAT-JACOB, CNRS

Ms Marie-Ange LUC, Inserm

Ms Stéphanie POMMIER, Inserm

Ms Marie Sissler, Université de Strasbourg

Mr Patrice Soullie, CNRS

Head of Doctoral School:

Mr Serge POTIER, Doctoral School n° 414, « Sciences de la Vie et de la Santé »

1 • Introduction

History and geographical location of the unit

The IGBMC (Institut de Génétique et de Biologie Moléculaire et Cellulaire) is a large research unit supported by the CNRS, Inserm and the Strasbourg University. It is located in Illkirch, south of Strasbourg. It originated from the association of two research units: the LGME (Laboratoire de Génétique Moléculaire des Eucaryotes) chaired by Mr Pierre CHAMBON and the LBS (Laboratoire de Biologie Structurale) chaired by Mr Dino MORAS. The IGBMC was initially directed by Mr Pierre CHAMBON up to 2002. Then, Mr Jean-Louis MANDEL as director and Mr Dino MORAS as deputy director took over the leadership of the institute. In 2007 Mr Dino MORAS was the director and Mr Jean-Louis MANDEL the deputy director. Mr Olivier POURQUIÉ was appointed director in 2009 and then Ms Brigitte KIEFFER in June 2012. When Ms Brigitte KIEFFER left, Mr Bertrand SÉRAPHIN was nominated director and Mr Yann HERAULT deputy director in 2014.

Management team

Mr Bertrand SÉRAPHIN will be the director of IGBMC for the coming 5-year period with Mr Yann HERAULT as deputy director. They will be assisted by the four heads of the IGBMC departments (department of Integrated Structural Biology, department of Development and Stem Cells, department of Functional Genomic and Cancer and department of Translational Medicine and Neurogenetics), the coordinators of the Technology Platforms and the Scientific Services, and the three directors of Scientific Affairs, of Administration and Finances and of Logistics.

HCERES nomenclature

Primary domain:

SVE2 Cell Biology, Imagery, Molecular Biology, Biochemistry, Genomics, System Biology, Development, Structural Biology.

Secondary domains:

SVE5 Physiology, Pathophysiology, Cardiology, Pharmacology, Endocrinology, Cancer, Medical Technologies.

SVE3 Microbiology, Immunity.

Scientific domains

The IGBMC is a pioneering center for the study of gene expression in eukaryotes, building on comprehensive and integrated approaches including structural analyses of factors involved in these processes and identification of genes involved in human genetic diseases. Research activities are stimulated by several on-site technological facilities of international level including the phenogenomic characterization of mouse models and structural analyses using the latest cryo electron microscopy equipment. These facilities are open to the community at large. IGBMC scientific strategy aims to explore the interface between genomics, physiology and epigenetics to decipher how cell identity is established, to gain a better understanding of diseases and how best to treat them, and to use molecular and mechanistic studies to understand gene regulation, gene expression, gene mutations and signalling pathways. The LabEx INRT and the PHENOMIN, FRISBI, FranceGenomique and Ingestem Infrastructures are central to the development of the current IGBMC's scientific strategy.

Unit workforce

| Unit workforce | Number on 30/06/2016 | Number on 01/01/2018 |
|--|----------------------|----------------------|
| N1: Permanent professors and similar positions | 48 | 47 |
| N2: Permanent researchers from Institutions and similar positions | 52 | 58 |
| N3: Other permanent staff (technicians and administrative personnel) | 297 | 304 |
| N4: Other researchers (Postdoctoral students, visitors, etc.) | 103 | |
| N5: Emeritus | 7 | |
| N6: Other contractual staff (technicians and administrative personnel) | 25 | |
| N7: PhD students | 111 | |
| TOTAL N1 to N7 | 643 | |
| Qualified research supervisors (HDR) or similar positions | 86 | |

| Unit record | From 01/01/2011 to 30/06/2016 |
|---|-------------------------------|
| PhD theses defended | 160 |
| Postdoctoral scientists having spent at least 12 months in the unit | 178 |
| Number of Research Supervisor Qualifications (HDR) obtained during the period | 20 |

2 • Assessment of the unit

Global assessment of the unit

The IGBMC is a major centre for biomedical research that has, over the years, established itself as an outstanding internationally competitive research institution. Its research portfolio covers areas of molecular genetics, human genetics and inherited diseases, mouse genetics, structural biology, cancer, gene expression regulation, cell biology and development.

Over the period of review, the IGBMC's output has continued to be outstanding both in terms of the quality and the quantity of its research. IGBMC scientists have published more than 1180 peer-reviewed research articles and reviews, including major high profile scientific findings that contribute to IGBMC's scientific reputation. The institute's academic reputation and appeal was also enhanced by nearly 100 million € in funding from diverse funding agencies in a difficult funding period, by national and international prizes to IGBMC scientists and by national and international meetings and workshops organized by the IGBMC.

The performance of the younger and more recently recruited research groups is fundamental to the renewal process that is underway at the IGBMC. It is therefore encouraging for the future of the unit that the performance and contribution of these research groups to the unit's overall scientific production was evaluated as being particularly innovative and exciting.

The attractiveness of the unit is enhanced by infrastructure platforms that have continued to evolve and to perform at very high standards. Ensuring appropriate resource allocation amongst these platforms, particularly those in which game-changing technological improvements are occurring, will be critical to their continuing success in the future.

The IGBMC has an outstanding record of putting basic science discoveries to practical use, with 21 licenses to companies and 7 startup companies occurring in this review period.

The IGBMC provides an excellent training environment for master and Ph.D students as well as postdoctoral scholars. Opportunities exist to improve mentoring of junior scientists for their future careers.

The visiting committee noted major strides had been made in resolving the issues of governance outlined in the 2012 AERES evaluation report. It is clear that the leaders of the IGBMC have worked hard to improve collegiality within the unit. The Transversal Programs, which encourage collaborations between groups across different departments, is one example of constructive efforts to enhance ties within the unit. Nevertheless, much remains to complete this process. The experts committee discerned within the present departments some lingering hard feelings inherited from the past. Since a sense of community and inclusiveness is likely to contribute to IGBMC's capacity to retain its most outstanding young group leaders in a highly competitive job market, the importance of addressing unresolved management problems cannot be overemphasised. The IGBMC is encouraged to continue its efforts to create a highly collaborative and collegial environment.