

REPORT ON THE RESEARCH UNIT:
Computational and Quantitative Biology (CQB)

UNDER THE SUPERVISION OF THE
FOLLOWING INSTITUTIONS AND
RESEARCH BODIES:

Université Pierre et Marie Curie - UPMC
Centre National de la Recherche Scientifique -
CNRS

EVALUATION CAMPAIGN 2017-2018
GROUP D



In the name of Hcéres¹:

Michel Cosnard, President

In the name of the expert committee²:

Shoshana Wodak, Chairwoman 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 expert 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).

This report is the sole result of the unit's 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 PRESENTATION

| | |
|--------------------------------------|--|
| Unit name: | Computational and Quantitative Biology |
| Unit acronym: | CQB |
| Requested label: | UMR |
| Application type: | Renewal |
| Current number: | UMR 7238 |
| Head of the unit (2017-2018): | Ms Alessandra CARBONE |
| Project leader (2019-2023): | Ms Alessandra CARBONE |
| Number of teams: | 8 |

COMMITTEE MEMBERS

| | |
|--|---|
| Chair: | Ms Shoshana WODAK, VIB research Institute, Gent, Belgium |
| Experts: | Mr Jürg BAHLER, UCL Cancer institute London, United Kingdom Mr Martin CRESPI, l'Institut des Sciences des Plantes, Paris-Saclay Mr Guillaume FERTIN, Université de Nantes (representative of CoCNRS) Mr Richard NEHER, Biozentrum University of Basel, Switzerland Mr Guillaume PINNA, CEA Saclay Gif-sur-Yvette (supporting personnel) Mr Nicolas SALAMIN, University of Lausanne, Switzerland Mr Dominique SCHNEIDER, Université Grenoble-Alpes (representative of CNU) |
| HCERES scientific officer: | Mr Pierre COUBLE |
| Representatives of supervising institutions and bodies: | Mr Frédéric BOCCARD, CNRS Mr Stéphane RÉGNIER, University Paris 6 |

INTRODUCTION

HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

The unit was established in January 2009 as FRE 3214 (Génomique des Microorganismes) by the CNRS and the University Pierre and Marie Curie. It was physically located at the Cordeliers campus (75006) starting January 2010, and was converted into UMR 7238, in 2011. It then moved into new premises at the Jussieu campus between June and December 2016. In 2014 the unit was integrated into a larger research federation, the Paris-Seine Institute of Biology (IBPS) and changed its name to Laboratory of Computational and Quantitative Biology (LCQB).

At the UPMC, the unit is affiliated with the faculty of biology and the faculty of engineering. At the CNRS the unit is part of the Institut National des Sciences Biologiques (INSB).

MANAGEMENT TEAM

The LCQB is headed by Ms Alessandra Carbone.

HCERES NOMENCLATURE

SVE2_2; ST1_2; ST2_2; ST4_4; ST6_1.

SCIENTIFIC DOMAIN

The LCQB is an interdisciplinary research department that brings together theoretical teams with expertise in bioinformatics, computational statistics, mathematical modelling and theoretical physics, and experimental teams with know-how in genetics, genomics, cellular, and synthetic biology. Its aim is to foster investigations across disciplines leading to a quantitative understanding of the mechanisms and evolutionary constraints that underpin biological processes at the molecular and cellular levels.

UNIT WORKFORCE

| Unit workforce | Number 30/06/2017 | Number 01/01/2019 |
|---|----------------------|----------------------|
| Permanent staff | | |
| Full professors and similar positions | 4 | 5 |
| Assistant professors and similar positions | 7 | 6 |
| Full time research directors (Directeurs de recherche) and similar positions | 3 | 2 |
| Full time research associates (Chargés de recherche) and similar positions | 1 | 1 |
| 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) | 7 | 6 |

| | | |
|---|-----------|-----------|
| TOTAL permanent staff | 22 | 20 |
| Non-permanent staff | | |
| Non-permanent professors and associate professors, including emeritus | 0 | |
| Non-permanent full time scientists, including emeritus, post-docs | 10 | |
| Non-permanent supporting personnel | 3 | |
| PhD Students | 12 | |
| TOTAL non-permanent staff | 25 | |
| | | |
| TOTAL unit | 47 | |

GLOBAL ASSESSMENT OF THE UNIT

The LCQB has successfully managed to create a truly multidisciplinary and well-balanced research environment. By its strong emphasis on combining experimental (wet-bench) and theoretical approaches, it embodies the paradigm shift that modern-day biology is undergoing. The affiliation of the LCQB with two University Faculties: Biology and Engineering, and the completion of its physical move to the Jussieu Campus represent a great asset for the University as a whole.

The overall assessment of the unit scientific output and appeal are excellent owing to the achievements and reputation of several outstanding and excellent teams and to the complementary nature of their scientific interests. This has enabled fruitful collaborations between teams within the unit, as well as collaborations with other laboratories in France, elsewhere in Europe and beyond. The research output of the LCQB clearly represents significantly more than the sum of its parts.

The LCQB is dynamic. It is proactively attracting and kindling new team Leaders and scientific collaborators, who are exploring new topics and approaches.

The LCQB has an excellent track record in training PhD students and mentoring post-doctoral fellows. This is supported by the commendable number of past and present PhD students and fellows trained at the unit, their publication record and their high level of satisfaction with the excellent quality of the training and academic standing of the LCQB unit overall.

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