



CIML - Centre d'immunologie de Marseille-Luminy

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:

Center of Immunology of Marseille-Luminy

CIML

under the supervision of
the following institutions
and research bodies:

Aix-Marseille Université

Centre National de la Recherche Scientifique - CNRS

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

Evaluation Campaign 2016-2017 (Group C)

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

Rose Zamoyska, chairwoman 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: Centre d'Immunologie de Marseille-Luminy

Unit acronym: CIML

Label requested: UMR

Current number: UMR U 2, INSERM U 1104, CNRS 7280

**Name of Director
(2016-2017):** Mr Éric VIVIER

**Name of Project Leader
(2018-2022):** Mr Philippe PIERRE

Expert committee members

Chair: Ms Rose ZAMOYSKA, University of Edinburg, UK

Experts: Ms Christine DELPRAT, Université Claude Bernard Lyon 1 (representative of the CNU)

Mr Nicolas FAZILLEAU, Université Toulouse 3, INSERM UMR 1043-CNRS UMR 5282 (representative of the CSS INSERM)

Ms Maria GARCIA-PARAJO, The Institute of Photonic Sciences, Spain

Ms Helene GARY, Université Paris-Sud (representative of supporting personnel)

Mr Regis JOSIEN, Université de Nantes

Mr Robin MAY, University of Birmingham, UK

Mr Christian MUNZ, University of Zurich, Switzerland

Mr Walter REITH, University of Geneva, Switzerland

Mr Miguel P. SOARES, Instituto Gulbenkian de Ciencia, Portugal

Ms Freda STEVENSON, University of Southampton, UK

Mr François TROTTEIN, Institut Pasteur de Lille (representative of the CoNRS)

Scientific delegate representing the HCERES:

Ms Sophie EZINE

Representatives of supervising institutions and bodies:

Mr Pierre CHIAPPETTA, Aix-Marseille Université

Mr Younis HERMES, CNRS

Mr Bruno LUCAS, CNRS

Ms Dominique NOBILE, INSERM

Ms Stéphanie POMMIER, INSERM

Head of Doctoral School:

Mr Jean-Louis MEGE, ED n°62, Doctoral School “Science de la Vie et de la Santé”

1 • Introduction

History and geographical location of the unit

Founded in 1976, the Centre d'Immunologie de Marseille-Luminy (CIML) is an internationally recognized research institute that conducts basic research in immunology on many models from worm to man, and at various scales from molecules to the whole organism, from physiology to pathology. It is home to research teams, technology platforms and support services of the institute. In 2013, the CIML took the lead to set-up a large cluster dedicated to Immunology: Marseille-ImmunoPôle, whose stated goal is to place France at the forefront of the high-growth immunotherapy market.

The CIML is located on a multidisciplinary campus at the gates of the Parc National des Calanques in the Aix-Marseille metropole. This 1000-hectare estate near a classified site of coves accommodates 10 000 students, 2 faculties, 6 “grandes écoles” and institutes, 32 research laboratories and 15 biotechnology companies, including four companies created on the initiative of the CIML.

Management team

The CIML is currently headed by Mr Éric VIVIER and a deputy director, Mr Marc DALOD.

The future proposed director is Mr Philippe PIERRE and the deputy director, Mr Toby LAWRENCE.

HCERES nomenclature

LS6 Immunity and infection: immunobiology, aetiology of immune disorders, microbiology, virology, parasitology, global and other infectious diseases, population dynamics of infectious diseases, veterinary medicine;

Secondaire:

LS5 Neurosciences and neural disorders: neurobiology, neuroanatomy, neurophysiology, neurochemistry, neuropharmacology, neuroimaging, systems neuroscience, neurological disorders, psychiatry;

LS7 Diagnostic tools, therapies and public health: aetiology, diagnosis and treatment of disease, public health, epidemiology, pharmacology, clinical medicine, regenerative medicine, medical ethics.

Scientific domains

The research domain of the CIML is “Immunology in all its states”: from the dissection of T, B and NK cell signalling pathways to the 3D structure of a T cell receptor-antigenic peptide-MHC complex through the composition of the death signal delivered by cytolytic T lymphocytes and the analysis of the dendritic and myeloid lineages.

Unit workforce

| Unit workforce | Number on 30/06/2016 | Number on 01/01/2018 |
|--|-------------------------|-------------------------|
| N1: Permanent professors and similar positions | 13 | 12 |
| N2: Permanent researchers from Institutions and similar positions | 40 | 40 |
| N3: Other permanent staff (technicians and administrative personnel) | 49 | 48 |
| N4: Other researchers (Postdoctoral students, visitors, etc.) | 27 | |
| N5: Emeritus | 4 | |
| N6: Other contractual staff (technicians and administrative personnel) | 37 | |
| N7: PhD students | 36 | |
| TOTAL N1 to N7 | 206 | |
| Qualified research supervisors (HDR) or similar positions | 32 | |

| Unit record | From 01/01/2011 to 30/06/2016 |
|---|----------------------------------|
| PhD theses defended | 37 |
| Postdoctoral scientists having spent at least 12 months in the unit | 88 |
| Number of Research Supervisor Qualifications (HDR) obtained during the period | 8 |

2 • Assessment of the unit

Global assessment of the unit

CIML is at the forefront of Immunology research in Europe, producing research of outstanding quality, originality and scope. CIML research is focused on all aspects of Immunology covering adaptive and particularly innate immunity at organismal, cellular and molecular levels of detail.

Highlights of the scientific output since the last evaluation report include high throughput measures for dissecting T cell receptor signalling by identifying protein-protein interactions in primary cells; advances in characterising the molecular mechanisms underlying lymphomagenesis and leukaemia; pioneering work on the identification and characterization of innate lymphoid, myeloid and dendritic cell subsets, from their ontogeny, through to transcriptomes and function; and development of single cell microfluidics analysis and advanced imaging platforms to facilitate visualization of cellular interactions *in vivo* and *in vitro*. These programs are underpinned by strong common scientific and technology platforms that facilitate interactions between the groups and innovations such as the development of bioinformatics platforms and new analysis software.

The excellence of these programs has been exemplified through over 430 publications during the current review period of which a significant number are in outstanding, international peer-reviewed journals. There is an active participation in technology and knowledge transfer activities with a portfolio of current patents and associated licenses, development of start-up companies and industrial partnerships. CIML has led the setting up of a large regional cluster, Marseille-Immunopôle, aimed at revolutionizing the treatment of cancer and inflammatory disease. CIML is in charge of coordinating joint initiatives on cancer through Canceropôle, a community of research institutes, hospitals, cancer research centers and local structures of excellence in the French South-East Region. In addition there is substantial interaction of CIML researchers with the wider national and international community promoting the dissemination of ideas and technology developments, which is of general benefit to the global scientific community. Finally CIML is actively involved in scientific dissemination and training through teaching at master and PhD levels as well as engagement with the wider general public.

The strengths of CIML are many, as summarized above. The major weakness identified in this evaluation was a concern that an onward leadership vision, to maintain the strength of CIML going forward, needed to be clearly formulated for the coming contract (next 5 years) in comparison to previous years. There has been a departure of three research groups in the past review period, and a number of the existing teams are ageing, therefore a strong leadership and strategy to renew the institute with vibrant young talent needs to be pursued actively, with an eye to equalizing gender ratios among senior team leaders. Only by renewing and building for the future will the excellence of the institution be maintained.