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VITROME - Vecteurs infections tropicales et méditerranéenne

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:

Vecteurs - Infections TROpicales et MÉditerranéennes

VITROME

under the supervision of
the following institutions
and research bodies:

Aix-Marseille Université

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

Institut de Recherche pour le Développement - IRD

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

Matthew Baylis, 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 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: | Vecteurs - Infections Tropicales et Méditerranéennes |
| Unit acronym: | VITROME |
| Label requested: | UMR AMU-Inserm-IRD |
| Current number: | URMITE AMU UM63, UMR CNRS 6236, IRD 3R198, Inserm U 1095 |
| Name of Director (2016-2017): | Mr Didier RAOULT |
| Name of Project Leader (2018-2022): | Mr Philippe PAROLA |

Expert committee members

| | |
|----------|---|
| Chair: | Mr Matthew BAYLIS, Institute of Infection and Global Health, University of Liverpool, UK |
| Experts: | Mr Jean-François GUEGAN, MIVEGEC IRD-CNRS-Université de Montpellier |
| | Ms Marie-Agnès JACQUES, IRHS INRA, Beaucauze (representative of the CSS IRD) |
| | Ms Michelle KELLY-IRVING, Université Paul Sabatier, Toulouse |
| | Mr Laurent MARSOLLIER, Université d'Angers (representative of the CSS Inserm) |
| | Mr Jurgen MAY, Bernhard Nocht Institute for Tropical Medicine, Hambourg, Germany |
| | Mr Olivier REYNARD, Centre International de Recherche en Infectiologie, University of Lyon (representative of supporting personnel) |
| | Ms Sonia SANTIBÁÑEZ SAENZ, Centro de Rickettsiosis y Enfermedades Transmitidas por Artrópodos Vectores, Logroño, Spain |

Scientific delegate representing the HCERES:

Ms Catherine SCHUSTER

Representatives of supervising institutions and bodies:

Mr Pierre CHIAPPETTA, Aix-Marseille Université

Mr Dominique NOBILE, Inserm

Ms Stéphanie POMMIER, Inserm

Ms Valérie SALIN, IRD

Head of Doctoral School:

Mr Philippe NAQUET, Doctoral School n° 52, "Sciences de la vie et de la santé"

1 • Introduction

History and geographical location of the unit

The VITROME (Vecteurs - Infections TROPicales et MÉditerranéennes) unit is a new unit that will result from the division of URMITE (Research unit on Infectious and Emerging Tropical Diseases) into two independent research units. URMITE was created by Mr Didier RAOULT, and is a Mixed Research Unit (UMR) under the labels IRD, CNRS, Inserm and Aix-Marseille University (AMU). It is located on the La Timone hospital campus. The future VITROME unit will be headed by Mr Philippe PAROLA and will be part of the Institut-Hospitalo-Universitaire (IHU) "Infection Méditerranée". Members of 5 teams are located in the brand new IHU building at the Faculty of Medicine Campus La Timone in Marseille. Others are based in overseas territories, Senegal, Algeria and French Polynesia (Tahiti).

Management team

URMITE was led by Mr Didier RAOULT. VITROME will be led by Mr Philippe PAROLA, deputised by Mr Bruno PRADINES.

HCERES nomenclature

SVE3 Microbiologie, Immunité

SVE6 Santé Publique, Épidémiologie, Recherche Clinique

Scientific domains

VITROME will work in the area of vector-borne infections of humans in the tropical world and the Mediterranean region plus some additional non-vector-borne diseases. Disease foci will include: tick-borne rickettsioses; other tick-borne diseases; malaria; mosquito-borne arboviruses; bacterial diseases spread by lice. Surveillance of disease will be undertaken on the French armed forces overseas, on travellers (such as Hajj pilgrims) and the homeless in the Marseille region.

Unit workforce

| Unit workforce | Number on 30/06/2016 | Number on 01/01/2018 |
|--|----------------------|----------------------|
| N1: Permanent professors and similar positions | 7 | 32 |
| N2: Permanent researchers from Institutions and similar positions | 8 | 36 |
| N3: Other permanent staff (technicians and administrative personnel) | 8 | 3 |
| N4: Other researchers (Postdoctoral students, visitors, etc.) | 1 | |
| N5: Emeritus | 1 | |
| N6: Other contractual staff (technicians and administrative personnel) | 22 | |
| N7: PhD students | 26 | |
| TOTAL N1 to N7 | 73 | |
| Qualified research supervisors (HDR) or similar positions | 13 | |

| Team record | From 01/01/2011 to 30/06/2016 |
|---|-------------------------------|
| PhD theses defended | 27 |
| Postdoctoral scientists having spent at least 12 months in the unit | 1 |
| Number of Research Supervisor Qualifications (HDR) obtained during the period | 4 |

2 • Assessment of the unit

Global assessment of the unit

VITROME is expected to be a world-leading, high-performing research unit, as evidenced by the number and quality of publications arising from the work of its predecessor, URMITE. Certain individuals in URMITE are amongst the most prolific publishers of research in France, or globally in their research area. There have been many high quality publications produced by URMITE.

A major strength, and area of research focus, is pathogen discovery. The unit has been responsible for the discovery of many new pathogens, giving them the claim of world records for, e.g. discovering the world's largest human virus, bacterium and archaea. The focus on new discovery supports large numbers of publications (often case reports), high citation rates of those papers, and drives research in directions of, for example, diagnostic approaches. In this respect, the team has moved heavily into protein-based diagnostic approaches like MALDI-TOF.

URMITE's origin lies in the area of rickettsia research, meaning that in terms of vectors, and at least at Marseille, it has a main focus on ticks. It holds colonies of several tick species and aims to expand this in VITROME;

additionally, it has some colonies of other vectors (such as three mosquito species), including one arbovirus vector. The expertise of the members of the VITROME unit means that it should be expected to play a key role in studies of new or emerging arboviruses, like Zika, Dengue or Chikungunya. The team based in French Polynesia published extensively on Zika in that area during the 2014 outbreak.

The VITROME teams appear to be defined by different criteria such as methodological approach, pathogen type and geographical location. It is unclear how or whether these teams will work together, how those overseas in Algeria, Senegal and French Polynesia will avoid isolation and how VITROME as a whole can provide added value to these individual units.

Little information was provided on sources of funding for the VITROME unit. Some international collaborations were evident, however there was little evidence of involvement in major EU programmes such as Horizon 2020 or ERC. Much of the research appears to be undertaken by national or international PhD students with a large proportion coming from countries of the south and notably from the African continent, with only a small pool of post-doctoral researchers.