



# INEM - Immunologie et neurogénétique expérimentales et moléculaires

## 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:

Experimental and Molecular Immunology and  
Neurogenetics

INEM

under the supervision of  
the following institutions  
and research bodies:

Centre National de la Recherche Scientifique - CNRS

Université d'Orléans

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,<sup>1</sup>*

Michel Cosnard, president

*In the name of the experts committee,<sup>2</sup>*

Fabio Martinon, chairman of the committee

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Under the decree N°2014-1365 dated 14 november 2014,

<sup>1</sup> The president of HCERES "countersigns the evaluation reports set up by the experts committees and signed by their chairman." (Article 8, paragraph 5)

<sup>2</sup> 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:                          | Experimental and Molecular Immunology and Neurogenetics |
| Unit acronym:                       | INEM  |
| Label requested:                    | UMR CNRS - Université d'Orléans                         |
| Current number:                     | 7355  |
| Name of Director (2016-2017):       | Ms Valérie QUESNIAUX                                    |
| Name of Project Leader (2018-2022): | Ms Valérie QUESNIAUX                                    |

## Expert committee members

|   |  |
|---|--|
| Chair:  | Mr Fabio MARTINON, University of Lausanne, Switzerland   |
| Experts:  | Mr Etienne AUDINAT, Université Paris Descartes<br>Mr Dominique BONNEAU, CHU et Université d'Angers<br>Mr Jean DAVOUST, Université Paris Descartes (representative of the CoNRS)<br>Ms Christine DELPRAT, Université Claude Bernard Lyon 1 (representative of the CNU)<br>Ms Hélène GARY, Université Paris-Sud (representative of supporting personnel)<br>Mr Jean-Louis HERRMANN, UFR des Sciences de la Santé Simone Veil |
| Scientific delegate representing the HCERES:            | Ms Sophie EZINE  |
| Representatives of supervising institutions and bodies: | Mr Éric BUFFENOIR, CNRS<br>Mr Ioan TODINCA, Université d'Orléans   |
| Head of Doctoral School:                                | Mr Luigi AGROFOGLIO, ED n° 549, « Santé, Sciences Biologiques et Chimie du Vivant » (co-accréditée Orléans/Tours)  |

## 1 • Introduction

### History and geographical location of the unit

The research unit was created in 2001 and became UMR 6218 in 2006. The unit's initial focus was on molecular immunology and embryology. In 2009, the team "Embryology" was replaced with a "Neurogenetics" team, leading to the creation in 2012 of the unit "Experimental and Molecular Immunology and Neurogenetics" (INEM, UMR7355). INEM is the focus of this evaluation.

The unit is located on the Orléans CNRS campus. The direct environment is multidisciplinary with little additional research in life sciences. UMR 7355 is part of the Transgenose Institute, that also includes the CNRS service unit in mouse transgenesis TAAM (UPS44). Two spin-off companies are linked to INEM (Artimmune and Kaerus Bioscience).

INEM is organized into 2 teams: team 1, Immune responses to infection and injury, and team 2, Neurogenetics.

### Management team

The unit is headed by Ms Valérie QUESNIAUX.

### HCERES nomenclature

SVE1\_LS3

### Scientific domains

The unit domains are immunity and neurology. Research in immunology focuses on aspects of innate immunity and inflammation. The focus on Neurology is on genetic alterations impacting the neurological system, in particular the role of the mRNA translation regulator FMR1 in regulating channels possibly involved in intellectual disability. Another domain of interest is on the impact of environmental toxins on neurotoxicity and possibly inflammation.

## Unit workforce

| Unit workforce   | Number on 30/06/2016 | Number on 01/01/2018 |
|--|----------------------|----------------------|
| N1: Permanent professors and similar positions                         | 8                    | 8                    |
| N2: Permanent researchers from Institutions and similar positions      | 5                    | 5                    |
| N3: Other permanent staff (technicians and administrative personnel)   | 10 (7.7 FTE)         | 10 (7.7)             |
| N4: Other researchers (Postdoctoral students, visitors, etc.)          | 3                    |                      |
| N5: Emeritus   | 2                    |                      |
| N6: Other contractual staff (technicians and administrative personnel) | 4                    |                      |
| N7: PhD students   | 9                    |                      |
| TOTAL N1 to N7   | 41                   |                      |
| Qualified research supervisors (HDR) or similar positions              | 8                    |                      |

| Unit record   | From 01/01/2011 to 30/06/2016 |
|---|-------------------------------|
| PhD theses defended   | 10                            |
| Postdoctoral scientists having spent at least 12 months in the unit           | 14                            |
| Number of Research Supervisor Qualifications (HDR) obtained during the period | 2                             |

## 2 • Assessment of the unit

### Global assessment of the unit

The unit tackles a very diverse number of scientific questions focused on inflammation targeted both in the immune and nervous systems. Since the last evaluation report in 2010, the unit was reorganized with the addition of new groups; however the main themes and strategies were maintained. ArtImmune, a Spin-off created in 2010 has a strong partnership with INEM and focused on deciphering specific aspect of asthma. INEM has a very prolific amount of publications, including many publications resulting from collaborations that highlight the contribution of this unit beyond their specific research themes. The committee noticed also an excellent capacity to obtain external grants as illustrated by a steadily increasing amount of funds in recent years. However, most of the research topics are sound, very diversified and synergies among the projects could be improved. Similar comments were made during the previous evaluation. This may have diluted the efforts on some of the most promising projects. A more focused and detailed investigation on a few specific projects could have increased their impact and the impact factor of some of the resulting publications. The general assessment of the unit is very good to excellent, the scientific production was very good in the period reviewed and the future prospects are very promising. The addition to the unit of a group within team 1 led by a new member is proposed. This group has recently identified altered expression of an enzyme involved in purine metabolism as a risk factor for autism spectrum disorders (ASDs). Joining INEM will allow this group to access the tools and expertise necessary to investigate the role of the perturbation of this pathway, including inflammation, in neurological disorders, and will augment the synergistic interactions between the neuro and immuno branches of INEM.