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IMN - Institut des maladies neurodégénératives

Rapport Hcéres

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HCERES

High Council for the Evaluation of Research
and Higher Education

Research units

HCERES report on research unit:

Institute for Neurodegenerative Disorders

IMN

Under the supervision of
the following institutions
and research bodies:

Université de Bordeaux

Centre National de la Recherche Scientifique - CNRS

Commissariat à l'énergie atomique et aux énergies
alternatives - CEA

Institut national de recherche en informatique et en
automatique - INRIA

HCERES

High Council for the Evaluation of Research
and Higher Education

Research units

In the name of HCERES,¹

Didier HOUSSIN, president

In the name of the experts committee,²

Olivier BLIN, chairman of the committee

Under the decree N^o2014-1365 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 result of the evaluation by the experts committee, the composition of which is specified below. The assessments contained herein are the expression of an independent and collegial deliberation of the committee.

Unit name:	Institute for Neurodegenerative Disorders
Unit acronym:	IMN
Label requested:	CNRS
Present no.:	UMR 5293
Name of Director (2014-2015):	Mr Erwan BEZARD
Name of Project Leader (2016-2020):	Mr Erwan BEZARD

Expert committee members

Chair: Mr Olivier BLIN, Hôpital de la Timone, Marseille

Experts:

- Ms Nicole DEGLON, University of Lausanne, Switzerland
- Ms Lydia KERKERIAN, CNRS, Institut de biologie du développement, Marseille
- Mr Ayikoé Guy MENSAH-NYAGAN, Faculty of Medicine, Strasbourg (representative of the CNU)
- Ms Iris OREN, University of Edinburgh, United Kingdom
- Ms Sheela VYAS, Institut de Biologie Paris-Seine, Paris (representative of the CoNRS)

Scientific delegate representing the HCERES:

Mr Jean-Marie ZAJAC

Representatives of the unit's supervising institutions and bodies:

- Ms Alix de LA COSTE, CEA
- Mr Pierre DOS SANTOS, University of Bordeaux
- Ms Nathalie LERESCHE, CNRS
- Mr Roger MARTHAN (representative of the Doctoral School n° 154)
- Ms Monique THONNAT, INRIA

1 • Introduction

History and geographical location of the unit

The Institute of Neurodegenerative Diseases (IMN) was created on January 1st, 2011. It resulted from the merging of several teams originating mainly from two former CNRS units, while the other researchers involved in these two units formed the INCIA (Aquitaine Institute for Cognitive and Integrative Neuroscience). It led to the pooling of CNRS, INSERM and University personnel and resources dedicated to studying Movement Disorders and Dementias (mainly). Its establishment was the result of considerable efforts and represented a major step forward in the structuring of the Neuroscience research conducted at this site as part of the “Neurocampus” project. This “Neurocampus” features three research institutes, each of them being under the direction of leading scientists in their field of research, all spatially organized as a campus for facilitating the mutualisation of the large equipment or facilities. The strategic implantation in close vicinity from the University hospital of Bordeaux indicates the objective of the Neurocampus: to establish a synergy between basic and applied research.

The campus is spatially organized around the Neurocentre Magendie (NM) with two additional Institutes, the “Institut Interdisciplinaire en Neurosciences” (IINS) and the “Institut des Maladies Neurodégénératives” (IMN), and a Neuroscience school. The NM, led by Mr Pier-Vicenzo PIAZZA, Neurocampus coordinator, investigates the pathophysiology of conditions such as pain, memory impairment, addiction, stress-related disorders, etc., in the context of preclinical development in rodent models of these conditions. Upstream the NM, the IINS, led by Mr Daniel CHOQUET, investigates the functioning of the elementary element of the nervous system, the synapse using state-of-the-art imaging technologies allowing single molecule imaging. Downstream these two institutes, the IMN includes both preclinical (rodent and primate) and clinical researchers with a clear goal of developing new therapeutic approaches of neurodegenerative disorders by facilitating the translational research from bench to bedside. IINS and IMN will be housed in 2016 in a brand new building established in front of the current NM IMN buildings.

Management team

A governance system was established, headed by the Director of the IMN and the Executive Committee. Two Adjunct Directors were nominated: Mr François TISON, Professor of Neurology, heads the clinical branch of the IMN. Ms Céline VÉGA-ROIATTI, Neuroscience Assistant Professor, is in charge of the administration affairs. Together with Mr Christian GROSS, Neuroscience Assistant Professor, she is also in charge of the planning of the new building, interacting with the architects and contractors. Administrative and maintenance personnel were grouped within a single team. The centralized management of human and financial resources was created. Serious infrastructure problems (fire prevention, health and safety, the reorganization and reassignment of common and laboratory areas) were solved with the help of institutional partners. A special effort was made to organize the scientific life and follow-up of students. The scattered geographical localization of the various teams did not prevent scientific and technical collaborations as well as transversal projects among teams. These projects contributed to preparing the IMN for the evolution of its scientific project.

HCERES nomenclature

SVE1_LS5

SVE1_LS4

SVE1_LS7

Unit workforce

Unit workforce	Number as at 30/06/2014	Number as at 01/01/2016
N1: Permanent professors and similar positions	20	22
N2: Permanent researchers from Institutions and similar positions	19	27
N3: Other permanent staff (without research duties)	20	25
N4: Other professors (Emeritus Professor, on-contract Professor, etc.)	3	3
N5: Other researchers (Emeritus Research Director, Postdoctoral students, visitors, etc.)	9	1
N6: Other contractual staff (without research duties)	11	11
TOTAL N1 to N6	82	89

Unit workforce	Number as at 30/06/2014	Number as at 01/01/2016
Doctoral students	49	
Theses defended	24	
Postdoctoral students having spent at least 12 months in the unit	5	
Number of Research Supervisor Qualifications (HDR) taken	2	
Qualified research supervisors (with an HDR) or similar positions	30	33

2 • Overall assessment of the unit

Global assessment of the unit

The main strength of the unit is undoubtedly its overall excellent scientific level and outputs. Several teams are at the forefront of the European research and this scientific excellence is testified by an impressive record of publications in high-ranking journals with the best paper of the year ANA, the Neuroimage best paper award and 5 scientists being in the top 1%.

The IMN is also remarkable for its ability to conduct translational research with several original preclinical models that directly pave the way for innovative medicine. Relations with clinical departments and expert and investigation centre are excellent. Technical innovation is also remarkable related with mature industry exploitation.

Another critical strength is the ability of IMN to attract many researchers and post-doctoral students from abroad (13 different countries). This results in very good international collaborations that increase the impact of the lab. The very good and stimulating Master and Doctoral training is an added value.

The capacity to obtain financial support (over 3 million euros external resources during last 3 years) with PIA1, ANR grants, as well as European grants (Sympath, Newwalk, JPND) already secured, give confidence upon the capacity of IMN to conduct the research programs as planned.

Finally, but importantly, the research unit enjoys the full support of the University of Bordeaux, the CNRS as well as the CEA and INRIA. In fact, the IMN will benefit from a new building (Bordeaux Neurocampus) mid 2016.

Strengths and opportunities in relation to the context

A clear strength of the IMN over the past years has been the ability of most of the teams to conduct a high level of competitive research:

- Several teams have international impact, in particular in the area of Parkinson's disease translational research, memory processes and Alzheimer disease, functional imaging, as indicated by high impact publications;
- Several teams were successful to conduct innovative and risky projects with long-term vision;
- Ability to attract a relatively large number of good PhD and post-doctoral researchers.

Weaknesses and threats related to the context

The day-to-day scientific programs of some teams are perturbed by the new building construction, the reconditioning of existing buildings and works in the facilities. The Bordeaux imaging platform is not fully equipped yet (installation of the MRI scanners is expected to be effective mid-2015). However, these factors are expected to have minimal long-term impact. The position of the adjunct Director in charge of administrative affairs has to be secured.

Recommendations

The IMN has the potential to be recognized as a world leader in the neurodegenerative diseases field. Particular attention should be paid to increase the proportion of papers in high-impact journals. A stronger involvement in fundamental research should help to reach this realistic goal. Recruitment strategy should take in consideration the strong need in technicians and non-PhD engineers to take care of platform activities and also contribute to research activities. The Unit has clearly prioritized their objectives for the next 5 year contract, taking account the resources that have already been secured. Therefore, the only recommendation is to remain focused on major objectives.