

FINAL RESUME ON THE RESEARCH UNIT  
IMN - Institute of Neurodegenerative diseases

UNDER THE SUPERVISION OF THE  
FOLLOWING INSTITUTIONS AND RESEARCH  
BODIES:

Université de Bordeaux

Centre national de la recherche scientifique - CNRS,



In the name of Hcéres<sup>1</sup>:

Mr Thierry Coulhon, President

the name of the experts committee<sup>2</sup>:

Mr Luc Buee, Chairman of the committee

Under the decree No.2014-1365 dated 14 November 2014,

<sup>1</sup> The president of Hcéres "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 experts committee". (Article 11, paragraph 2).

Tables in this DOCUMENT were filled with certified data submitted by the supervising body on behalf of the unit.

## UNIT PRESENTATION

**Unit name:**

Institute of Neurodegenerative diseases

**Unit acronym:**

IMN

**Current label and N°:**

CNRS UMR 5293

**ID RNSR:**

201122738X

**Application type:**

Renewal

**Head of the unit (2020-2021):**

Mr Thomas Boraud

**Project leader (2021-2025):**

Mr Thomas Boraud

**Number of teams and/or themes:**

12 (7 belong to IMN, 3 are emerging teams (only one PI), 2 teams belong to other laboratories)

## EXPERTS COMMITTEE MEMBERS

**Chair:**

Mr Luc Buee, CNRS Lille

**Experts:**

Ms Cristine Alves Da Costa, Inserm, Valbonne

Ms Nicole Deglon, Université de Lausanne, Suisse

Ms Anne Didier, Université Claude Bernard, Lyon 1, Neurocampus expert

Mr Orestis Faklaris, CNRS Montpellier

Mr Tangui Maurice, CNRS Montpellier

Ms Marie Claude Potier, CNRS, Paris

Mr Emmanuel Procyk, Inserm, Paris

Mr Henrique Sequeira, Université de Lille, Lille

Mr Pierre Pierre Yger, Inserm, Paris

## HCÉRES REPRESENTATIVE

Ms Nadia Soussi-Yanicostas

## REPRESENTATIVES OF SUPERVISING INSTITUTIONS AND BODIES

Ms Karine Argento, Adjointe au délégué régional CNRS Aquitaine

Mr Eric Papon, VP Innovation, University Bordeaux

Mr Bernard Poulain, CNRS

Ms Nathalie Sans, Neurocampus, University Bordeaux

# INTRODUCTION

## HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

The Institute of Neurodegenerative Diseases (IMN-UMR 5293), is an UMR CNRS - Université de Bordeaux and was created on January 1, 2011 and renewed in 2016. Mr Erwan Bézard was its founder and director from 2011 to 2020. Following his resignation in the autumn of 2020, Mr Thomas Boraud, who is leading the renewal project, was appointed acting director and then full director.

At the creation, the institute was scattered between five different buildings on two different campuses. Since June 2017, the researchers have been progressively reunited in a single building: Centre Broca Nouvelle Aquitaine (BNA).

The current institute is made of seven teams (Pathophysiology of parkinsonian syndromes; Dynamics of neuronal and vascular networks underlying memory processing; Dopamine & neural assemblies; Physiology and pathophysiology of executive functions; Neurofunctional Imaging Group; Monoamines, deep brain stimulation and Parkinson's disease; Pathological decision-making in addiction), one hosted INRIA team (Mnemonic synergy) and three merging teams with non-permanent positions (Pathophysiology of neuron-oligodendrocyte interactions; Molecular mechanisms of synaptopathy; Neuromodulation & neuroprothetics).

In the next contract, two teams (Dynamics of neuronal and vascular networks underlying memory processing; Pathological decision-making in addiction) are leaving IMN to join INCIA (UMR CNRS 5287).

IMN will thus have six teams (1. Pathophysiology of proteinopathies; 2. Purinergic mediated neuroinflammation & brain disorders; 3. Dopamine & neural assemblies; 4. Network dynamic underlying function & dysfunction of procedural learning; 5. Neurofunctional Imaging Group; 6. Monoamines, Parkinson & pain), one clinical team linked the clinical investigation center and two hosted teams: the hosted INRIA team (Mnemonic synergy) and one humanities team (from Bordeaux Montaigne); the three merging teams with non-permanent positions (Pathophysiology of neuron-oligodendrocyte interactions; Molecular mechanisms of synaptopathy; Neuromodulation & neuroprothetics).

The team 1 Pathophysiology of proteinopathies is the former Pathophysiology of parkinsonian syndromes with the same leader.

The team 2 Purinergic mediated neuroinflammation & brain disorders is a new team with people from the Pathophysiology of parkinsonian syndromes team and from IINS.

The team 3 Dopamine & Neural assemblies stays as previously with the same leaders.

The team 4 Network dynamic underlying function & dysfunction of procedural learning is the former Physiology and pathophysiology of executive functions with two new leaders

The team 5 Neurofunctional imaging group has a new leader since some senior researchers retired.

The team 6 Monoamines, Parkinson & pain is the former Monoamines, deep brain stimulation and Parkinson's disease with the same leader and an additional researcher from IINS.

The clinical team (IMNc #12) would be a new team sharing researchers with Teams 1 & 4 "Pathophysiology of proteinopathies" and "Network dynamic underlying function & dysfunction of procedural learning" and includes clinicians linked to the clinical investigation center. It was not clear to the committee if they have to evaluate this team

Hosted IMN Teams 7, 8, 9, 10 & 11 were not evaluated but advices were given.

## RESEARCH ECOSYSTEM

The IMN belongs to the LabEx Brain and the Bordeaux Neurocampus. The Bordeaux Neurocampus department includes six laboratories specialised in Neuroscience: IMN (Institut des Maladies Neurodégénératives); IINS (Institut Interdisciplinaire de Neurosciences); Neurocentre Magendie; INCIA (Institut des Neurosciences Cognitives et Intégratives d'Aquitaine); the Nutrineuro unit (Nutrition and integrative neurology) and the Sanpsy unit (Sleep, attention and neuropsychiatry).

The Department is also made up of:

- an associate team from the Institut Pasteur (Neurophysiology of the auditory synapse);

- the BIC (Bordeaux Imaging Center), which is a service unit of the Department.

With the IMN, two additional institutes are neighbours on the campus: the Neurocentre Magendie and the "Institut Interdisciplinaire en Neurosciences" (IINS).

The IMN therefore benefits from a very favourable environment. There is a pooling of technical platforms and hubs.

Many spin-offs and SMEs are located on the campus and have interactions with the IMN and other institutes.

## HCÉRES NOMENCLATURE AND THEMATICS OF THE UNIT

SVE4 Neurosciences

SVE4 Neurosciences

## MANAGEMENT TEAM

The management team is composed of the director of the IMN unit (Mr Erwan Bézard until September 2020 and then Mr Thomas Boraud) and two adjunct directors that were Mr François Tison and Ms Céline Véga-Roïatti until 2020. They have been replaced by Mr Wassilios Meissner and Mr Jérôme Baufreton. Both will continue to assume these functions for the next contract.

## UNIT WORKFORCE

### Institute of neurodegenerative diseases

Active staff	Number 06/01/2020	Number 01/01/2022
Full professors and similar positions	7	
Assistant professors and similar positions	8	
Full time research directors (Directeurs de recherche) and similar positions	16	
Full time research associates (Chargés de recherche) and similar positions	11	
Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.")	0	
High school teachers	0	
Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)	28	
<b>Permanent staff</b>	<b>70</b>	<b>0</b>
Non-permanent professors and associate professors, including emeritus	2	
Non-permanent full time scientists, including emeritus, post-docs (except PhD students)	21	
PhD Students	31	
Non-permanent supporting personnel	25	
<b>Non-permanent staff</b>	<b>79</b>	
<b>Total</b>	<b>149</b>	<b>0</b>

## GLOBAL ASSESSMENT OF THE UNIT

IMN is an internationally-recognized institute focusing on movement disorders located on the Neurocampus of Bordeaux. It is the main laboratory in Bordeaux working with non-human primates. At the campus level, IMN is one of the six institutes leading to the Neurocampus federation. Overall IMN researchers agreed on the beneficial effect of Neurocampus on the visibility of their community.

The IMN's main asset is undoubtedly its scientific excellence and the originality of its results. Several teams such as Teams 1, 2, 3, 4, 5 and 12 are internationally recognized with numerous invitations to international meetings and articles published in high-level journals (*Lancet Neurology*, *Nature Neuroscience*, *Neuron*, *Science*...). The IMN is also remarkable for its ability to conduct translational research with an excellent pre-clinical research-clinical research interface and a multiplicity of animal models including non-human primates, which makes IMN unique.

Some teams welcome a large number of doctoral students and/or postdoctoral fellows. There is a real diversity of people that favors international collaborations.

The IMN has also a diversity of funding at international (China, Michael J Fox, USA, MSA Coalition, ...), European (ERC, FP7, IMI, JPND...) and national (ANR, LabEx, PHRC...) levels. It has support from foundations and associations. Researchers are often the main investigators but they are also partners through their various networks. IMN has also industrial and R&D contracts. Three start-ups have also emerged from IMN.

The IMN welcomes promising young non-statutory researchers who are supported by significant funding from PIA tools (IdEx, LabEx...).

IMN researchers are grouped together in the same building close to the hospital and other neuroscience structures and thus, they develop translational research and inter-unit collaborations. The IMN benefits from an excellent environment with a structuring of Neuroscience within Neurocampus of Bordeaux. It thus shares certain facilities with other institutes and research.

The IMN houses teams from other laboratories (Team 7 (CNRS/INRIA) or a team of philosophers from the University of Bordeaux Montaigne (Team 11)) in order to facilitate interactions. Young investigators with non permanent position are also defined as Teams 7, 8 and 9. These teams, although they appear on the IMN profile, have not been evaluated by the committee. Clinicians and medical-oriented staff have also been gathered in Team 12. The committee has questions about the relevance of its evaluation since it is only linked to the CIC.

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