

FINAL RESUME ON THE RESEARCH UNIT
LNEC - Laboratoire de Neurosciences Expérimentales et
Cliniques

UNDER THE SUPERVISION OF THE
FOLLOWING INSTITUTIONS AND RESEARCH
BODIES:

Université de Poitiers,
Institut national de la santé et de la recherche
médicale - INSERM

EVALUATION CAMPAIGN 2020-2021
GROUP B



In the name of Hcéres¹:

Mr Thierry Coulhon, President

In the name of the experts committee²:

Mr Thierry Hasbroucq, Chairman of the committee

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

¹ The president of Hcéres "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 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:

Laboratoire de Neurosciences Expérimentales et Cliniques

Unit acronym:

LNEC

Current label and N°:

1084

ID RNSR:

201220166X

Application type:

Renewal

Head of the unit (2020-2021):

Mr Mohamed Jaber

Project leader (2021-2025):

Mr Mohamed Jaber

Number of teams and/or themes:

3

EXPERTS COMMITTEE MEMBERS

Chair:

Mr Thierry Hasbroucq, CNRS Marseille

Experts:

Mr Stephane Hunot, CNRS, Paris (Representative of Inserm CSS)

Ms Chrystel Lafont, Inserm, Montpellier (Representative of supporting personnel)

Mr Philippe Marin, CNRS, Montpellier

Mr Armand Sequeira Henrique, Université de Lille, Villeneuve D'Ascq, (representative of CNU)

Ms Angela Sirigu, CNRS, Bron

HCÉRES REPRESENTATIVES

Ms Céline Souchay

Ms Nadia Soussi-Yanicostas

REPRESENTATIVES OF SUPERVISING INSTITUTIONS AND BODIES

Ms Anne Costa, Poitiers Hospital

Mr William Couet, Poitiers Hospital

Mr Yves Gervais, Université de Poitiers

Mr Etienne Hirsch, INSERM

INTRODUCTION

HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

The Laboratory of Experimental and Clinical Neurosciences (Laboratoire de Neurosciences Expérimentales et Cliniques, LNEC) is a research unit jointly administered by the INSERM and the University of Poitiers. The LNEC was created in 2012 and was renewed in 2018. It is located in the Pôle Biologie-Santé (PBS) building of the University of Poitiers. Since its creation, the LNEC has been composed of three teams and directed by Mr Mohamed Jaber. For the next period (2022-2026), Mr Mohamed Jaber proposes a three-team project and remains the project leader (third and last mandate).

RESEARCH ECOSYSTEM

Besides the LNEC, the PBS building hosts two other INSERM units (U1082 and U1070), an ERL CNRS-University of Poitiers and two university teams. These structures are functionally organized to facilitate the sharing of platforms: histology, cell culture, microscopy, animal behavioural analysis (Prebios) thanks to a great variety of tests, videotracks systems, recording apparatus and stereotactic surgical devices; this is completed by various and very recent material in the field of imaging (ImageUp) such as 3D scanning electron microscope, a confocal microscope equipped with a super-resolution module, a light-sheet microscope as well as a slide scanner.

The LNEC has strong and unique ties with the Poitiers Medical School, University Hospital (CHU) and the local CIC Inserm 1402. These links allow robust synergies between basic and clinical approaches that facilitate translational research and the potential discovery of new therapeutic and diagnostic tools.

The LNEC is part of a thematic federation of research, SFR 4226 « Neuroimagerie Fonctionnelle » that groups seven research units (INSERM, CNRS and INRAE) and was supported by a COMUE gathering the Universities of Tours and Poitiers. The COMUE offered an administrative framework in which the LNEC had developed strong relations with academic partners in Tours. Recently, the University of Tours left the COMUE thereby precluding common local funding for the LNEC and its academic partners in Tours. In this context, the LNEC renewed and has consolidated pre-existing collaborations with the Bordeaux Neurocampus, such collaborating reorientation is facilitated by the fact that the cities of Poitiers and Bordeaux belong to the same new administrative Region « Nouvelle Aquitaine ». Common publications and joint regional and national funding obtained in interaction with Bordeaux's colleagues on the one side and the partnership with Bordeaux Neurocampus on a submitted PIA « Centre Excellence Autism » on the other, illustrate quite well current and future links between the LNEC and the scientific environment of Bordeaux. For example, the alliance between the LNEC and the Neurocampus is expected to be a win-win operation: The LNEC brings an expertise complementing those of the Bordeaux laboratories and, in turn, benefits from the international visibility of the Neurocampus.

HCÉRES NOMENCLATURE AND THEMATICS OF THE UNIT

SVE 4 Sciences du vivant et environnement

The main focus of the unit is research in fundamental and translational Neurosciences. The research axes are oriented towards neurological and psychiatric diseases, drug addiction and neurodevelopmental disorders. Approaches are clearly multidisciplinary and the unit uses a broad spectrum of methods that range from behavioural neuroscience, functional neuroanatomy, neurobiology and electrophysiology to cutting edge expertise in cell culture and differentiation of stem cells, cell transplantation, axon guidance and neurochemistry.

MANAGEMENT TEAM

The current LNEC director is Mr Mohamed Jaber. He is also the proposed director for the 2022-2026 term, this would be his third and last mandate.

UNIT WORKFORCE

LNEC - Laboratoire de Neurosciences Expérimentales et Cliniques

Active staff	Number 06/01/2020	Number 01/01/2022
Full professors and similar positions	8	5
Assistant professors and similar positions	7	9
Full time research directors (Directeurs de recherche) and similar positions	3	3
Full time research associates (Chargés de recherche) and similar positions	2	2
Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.")	0	
High school teachers	0	
Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)	12	13
Permanent staff	32	32
Non-permanent professors and associate professors, including emeritus		
Non-permanent full time scientists, including emeritus, post-docs (except PhD students)	1	
PhD Students	17	
Non-permanent supporting personnel	4	
Non-permanent staff	22	
Total	54	32

GLOBAL ASSESSMENT OF THE UNIT

The three teams (CTCP, NNA, 3N) constituting the LNEC unit are complementary devoted to explore neuropharmacological and neurodegenerative dimensions of cerebral functions and behavioural expressions on animal based models. The research performed at LNEC relies on a set of modern approaches that range from behavioural neuroscience, functional neuroanatomy, neurobiology and electrophysiology to cutting edge expertise in cell culture and differentiation of stem cells, cell transplantation, axon guidance and neurochemistry. In an effort to develop new approaches, the LNEC has recently acquired equipments for optogenetics, behavioural setups for automated phenotyping of animal models, a light sheet microscope, and a fiber photometry device.

The LNEC unit provides the neuroscience communities with a strong output. It is noticeable that the LNEC published several important original articles in prestigious peer-reviewed journals (including *Neuron*, *Biological Psychiatry*, *Brain*, *EMBO Molecular Medicine*, *Movement Disorders*, *Neuropsychopharmacology*, *Journal of Neuroscience*) as well as review articles (including papers in *Lancet Neurology*, *Progress in Neurobiology*). Overall, the unit has published 72 basic science papers (37 % with LNEC members as first and/or last authors) and 27 review papers. However, the publication record is somewhat heterogeneous between the three teams, Teams CTCP and 3N being the most productive, the production of NNA being more modest. Additionally, LNEC teams are extremely active in the fields of cell-based therapies, addiction, neurodegenerative and psychiatric disorders. This research is facilitated by the strong links between the unit and the University Hospital of Poitiers. The LNEC has published 55 clinical papers in high profile clinical journals (including *European Journal of Cancer*, *Journal for Immunotherapy of Cancer*, *Psychological Science*, *Brain Stimulation*).

The LNEC has succeeded in securing 53 research grants from various sources at national (ANR) and local levels (Region Nouvelle Aquitaine) and from charity foundations (e.g., Fondation pour la Recherche Médicale), patient associations (e.g., France Parkinson). However the level of fund raising capacity on competitive calls at European level has room to improve.

The LNEC has an international recognition but its visibility could be further improved by increasing the number of high profile publications, by applying to competitive grants at the European level to reinforce in particular the hiring possibility for talented postdoctoral fellows.

The interactions with the non-academic world are dynamic with two patents registered, the creation of a start-up, SomnoEngineering, several contracts with pharma companies, and the teams involvement in several clinical trials, one of which is built on their preclinical research findings.

The LNEC is very strongly involved in teaching at the various levels of university degrees. The LNEC has also a solid activity in mentoring young researchers at PhD, MSc and PhD levels as well as postdoctoral fellows.

The committee is convinced of the relevance of the excellent project presented by the LNEC for the next mandate. However, the NNA team is fragilized by the disengagement of his leader for other commitments and appropriate solutions need to be found out.

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