LNC - Laboratoire de neurosciences cognitives

Rapport Hcéres

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HCERES

High Council for the Evaluation of Research
and Higher Education

report on research unit:

Laboratoire de Neurosciences Cognitives

LNC

Under the supervision of the following institutions and research bodies:

Aix-Marseille Université

Centre National de la Recherche Scientifique – CNRS

Evaluation Campaign 2016-2017 (Group C)

HCERES

High Council for the Evaluation of Research
and Higher Education

In the name of HCERES,[1]

Michel Cosnard, president

In the name of the experts committee,[2]

Étienne Coutureau, chairman of the committee

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:	Laboratory of Cognitive Neuroscience
Unit acronym:	LNC
Label requested:	UMR
Current number:	7291
Name of Director (2016-2017):	Mr Bruno Pᴏᴜᴄᴇᴛ
Name of Project Leader (2018-2022):	Mr Thierry Hᴀꜱʙʀᴏᴜᴄϙʜ

Expert committee members

Chair: Mr Étienne Cᴏᴜᴛᴜʀᴇᴀᴜ, CNRS

Experts: Mr Pascal Bᴀʀᴏɴᴇ, CNRS, Toulouse (representative of the CoNRS)

Mr Thomas Bᴏʀᴀᴜᴅ, University of Bordeaux

Mr Radhouane Dᴀʟʟᴇʟ, University of Clermont-Ferrand

Mr Aymar ᴅᴇ Rᴜɢʏ, CNRS, University of Bordeaux

Ms Sylvie Gʀᴀɴᴏɴ, University of Orsay (representative of the CNU)

Ms Christelle Lᴇᴍᴏɪɴᴇ, University of Paris Descartes (representative of supporting personnel)

Mr Michaël Zᴜɢᴀʀᴏ, CNRS

Scientific delegate representing the HCERES:

Ms Céline Sᴏᴜᴄʜᴀʏ

Representatives of supervising institutions and bodies

Mr Pierre Cʜɪᴀᴘᴘᴇᴛᴛᴀ, Aix-Marseille University

Mr Bernard Pᴏᴜʟᴀɪɴ, CNRS

Head of Doctoral School:

Mr Philippe Nᴀϙᴜᴇᴛ, Doctoral School n° 62, « Sciences de la vie et de la santé »

1 ● Introduction

History and geographical location of the unit

The Laboratory of Cognitive Neuroscience (Laboratoire de Neurosciences Cognitives, LNC) is a research unit jointly administered by the CNRS and Aix-Marseille University and located at the Saint-Charles Campus. The LNC coalesced from the Laboratory of Neurobiology of Cognition, which was created in 2000. Since then, the LNC has been renewed in 2004, 2008 and 2012. The LNC is part of the Research Federation 3C (FR 3512) "Comportement Cerveau Cognition" (Behaviour, Brain and Cognition) currently headed by Mr Thierry HASBROUCQ. This federation, which includes 3 research units (Laboratory of Cognitive Psychology, lead by Mr Johannes ZIEGLER, Laboratory of Integrative and Adaptive Neuroscience, lead by Mr Christian XERRI and Laboratory of Cognitive Neuroscience, lead by Mr Bruno POUCET) provides the Saint-Charles Campus with an excellent environment for research in cognitive and integrative neuroscience.

Management team

The LNC is currently lead by Mr Bruno POUCET. Mr Thierry HASBROUCQ, who currently leads the Federation 3C, will take over the head of the LNC in January 2018.

HCERES nomenclature

SVE4: Neurosciences

Scientific domains

The main focus of the unit is on academic research and training through research, although many of its members are actively involved in interactions with the social, economic and cultural environment or in support activities for academic or scientific communities.

The research performed at the LNC aims at understanding the neural bases of information processing underlying cognitive behaviour in both humans and animals. More precisely, the scientific domains concern the neural bases of decision making, planning and voluntary actions. This basic research is rooted in theories and methods of cognitive neuroscience but has important implications into our understanding of various pathological conditions such as Parkinson disease or autism spectrum disorders.

Unit workforce	Number on 30/06/2016	Number on 01/01/2018
N1: Permanent professors and similar positions	13	19
N2: Permanent researchers from Institutions and similar positions	15	18
N3: Other permanent staff (technicians and administrative personnel)	4	16
N4: Other researchers (Postdoctoral students, visitors, etc.)	9	
N5: Emeritus		
N6: Other contractual staff (technicians and administrative personnel)	3	
N7: PhD students	13	
TOTAL N1 to N7	57	
Qualified research supervisors (HDR) or similar positions	19	

Unit record	From 01/01/2011 to 30/06/2016
PhD theses defended	21
Postdoctoral scientists having spent at least 12 months in the unit	26
Number of Research Supervisor Qualifications (HDR) obtained during the period	4

2 • Assessment of the unit

Global assessment of the unit

The LNC is an excellent research unit. Senior researchers with a good reputation jointly with more junior researchers have already shown that they can operate and contribute at a top international level. The new appointments are numerous and excellent with regard to quality, and potential. The LNC is highly attractive, illustrated by the fact that an ATIP/Avenir young research team recently joined the LNC. The LNC also obtained a Chair of Excellence funded by the Aix-Marseille University program and two research teams are planned to join the lab during the next term.

The teams develop a strong research project that is reflected in the following indicators of the LNC impacts in the field:

- concerning scientific impact, the LNC provides the cognitive neuroscience community with a strong output, which has been published in very good journals. It is noticeable that the LNC published numerous important papers in high impact supports, among which two papers in *Science*;

- concerning technological impact, the research performed at the LNC relies on a set of modern approaches that allow neural activity to be either manipulated (lesions, inactivations, optogenetics, pharmacology, transcranial magnetic stimulation, TMS) or measured (functional Magnetic Resonance Imaging – fMRI; ElectroEncephaloGraphy – EEG; Magneto-EncephaloGraphy – MEG; single unit recordings; Local Field Potentials – LFP);

- concerning funding, during the past term, the LNC has succeeded in securing 50 research grants from various national (*e.g.* "Agence Nationale de la Recherche") and European funding agencies (*e.g.* European Research Council starting grant). As a result, about two thirds of the LNC budget comes from external grant money; concerning mentoring and teaching,about half of the LNC research staff have also teaching duties. As a result, the LNC is very strongly involved in teaching at the various levels of university degrees. The LNC has also a very strong activity in mentoring young researchers at PhD and postdoctoral levels.