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## **L2C2 - Laboratoire sur le langage, le cerveau et la cognition**

Rapport Hcéres

► **To cite this version:**

Rapport d'évaluation d'une entité de recherche. L2C2 - Laboratoire sur le langage, le cerveau et la cognition. 2015, Université Claude Bernard Lyon 1 - UCBL, Centre national de la recherche scientifique - CNRS. hceres-02033964

**HAL Id: hceres-02033964**

**<https://hal-hceres.archives-ouvertes.fr/hceres-02033964v1>**

Submitted on 20 Feb 2019

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# HCERES

High Council for the Evaluation of Research  
and Higher Education

Research units

HCERES report on research unit:

Laboratory on Language, Brain and Cognition

L2C2

Under the supervision of  
the following institutions  
and research bodies:

Université Claude Bernard Lyon 1 - UCB

Centre National de la Recherche Scientifique - CNRS

# HCERES

High Council for the Evaluation of Research  
and Higher Education

Research units

*In the name of HCERES,<sup>1</sup>*

Didier HOUSSIN, president

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

Jean-François DÉMONET, chairman of the  
committee

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Under the decree N<sup>o</sup>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 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:	Laboratory on language, Brain and Cognition
Unit acronym:	L2C2
Label requested:	
Present no.:	UMR 5304 CNRS-UCB L1
Name of Director (2014-2015):	Ms Tatjana NAZIR, Ms Anne REBOUL (co-Director)
Name of Project Leader (2016-2020):	Ms Tatjana NAZIR

## Expert committee members

Chair:	Mr Jean-François DÉMONET, University of Lausanne, Switzerland
Experts:	Ms Ghislaine DEHAENE-LAMBERTZ, CNRS Mr Nicolas MATHEVON (representative of the CNU) Ms Elizabeth PACHERIE (representative of the CoNRS)

### Scientific delegate representing the HCERES:

Ms Celine SOUCHAY (SHS)  
Mr Jean-Marie ZAJAC (SVE)

### Representative(s) of the unit's supervising institutions and bodies:

Mr Denis FOUQUE, Université Claude Bernard Lyon 1  
Mr Rémi GERVAIS (representative of the Doctoral School CSV N° 476)  
Mr Jean-Louis VERCHER, CNRS

## 1 • Introduction

### History and geographical location of the unit

This laboratory originates from a research group that has developed in the CNRS research institute for cognitive sciences, an Institute founded by the late Pr Marc JEANNEROD and the Institute has now received the name of its founder. This laboratory (thereafter L2C2), lead by Ms Tatjana NAZIR and Ms Anne Reboul will be the director of the laboratory for the next contract period. L2C2 has not been included in the neuroscience institute of Lyon in 2010, as explained in the introduction of the application document, mainly as a result of the absence of consensus between the two supervising bodies (INSERM and CNRS). After yet another evaluation in 2012, L2C2 regained the status of UMR that started again in January 2013. L2C2 is localized in a building (Institut Sciences Cognitives - Mr Marc JEANNEROD) in which another CNRS laboratory is also hosted, UMR 5229.

### Management team

The group represented now by L2C2 has involved Ms Tatjana NAZIR as senior researcher by more than a decade; this scientist became officially director of the laboratory in 2010.

### HCERES nomenclature

SVE\_LS5; SHS4\_1

### Unit workforce

Unit workforce	Number as at 30/06/2014	Number as at 01/01/2016
<b>N1:</b> Permanent professors and similar positions	3	5
<b>N2:</b> Permanent researchers from Institutions and similar positions	9	10
<b>N3:</b> Other permanent staff (without research duties)	5	6
<b>N4:</b> Other professors (Emeritus Professor, on-contract Professor, etc.)	-	-
<b>N5:</b> Other researchers (Emeritus Research Director, Postdoctoral students, visitors, etc.)	1	1
<b>N6:</b> Other contractual staff (without research duties)	2	1
<b>TOTAL N1 to N6</b>	20	23

Unit workforce	Number as at 30/06/2014	Number as at 01/01/2016
Doctoral students	15	
Theses defended	14	
Postdoctoral students having spent at least 12 months in the unit	1	
Number of Research Supervisor Qualifications (HDR) taken	1	
Qualified research supervisors (with an HDR) or similar positions	9	12

## 2 • Overall assessment of the unit

### Global assessment of the unit

L2C2 has long established lines of research in the domain of cognitive neuroscience and psycholinguistics. A hallmark of this group is inter-disciplinarity from language philosophy to neuroscience, a rare feature whose relevance should be underlined. L2C2 focused especially on the relationships between language functions and other domains such as the motor system and higher level cognitive representations; a non limitative list of those involves logical inferences, pragmatics, social cognition as well as some aspects of the neural correlates of these processes. The latter are explored with a dedicated neuroimaging platform, “Cognitoscope” that combines psychophysical, robotic and EEG equipment; some of these facilities consist of in-house developpements and are especially original, notably: dual EEG equipment, visuomotor on-line recording Optotrak, and the ability to explore cognitive functions in infants as well as in adults. Over the past contract period, scientific productions have developed alongside these lines. While maintaining the core of this research, some new topics are being added to the scientific program of L2C2, such as speech perception development.

L2C2 has produced a number of original publications in good journals: this production reflect clearly the scientific objectives put forward by senior researchers in the group; most of these papers were published with doctorate students as 1st author.

The future research plans involve ambitious objectives such as an emphasis on the early development of speech perception and genetically-related disorders, the influence of social interactions and cultural context on language processing as well as the impact of education. While highly relevant, these objectives will require rigorous action plans to develop in an optimized way.

### Strengths and opportunities in relation to the context

The group has proven its attractiveness and efficient recruitment strategy, as over the past contract period a number of new researchers were recruited: 3 CR2, 1 Assistant Professor, 2 DR (in fact one of them was already member of the team but was working abroad in the Centre de recherche français in Jerusalem 2011-2014). The team has also excellent collaborations with clinicians especially paediatricians and experts in developmental cognitive disorders (e.g. Fragile-X) at Lyon University Hospital.

### Weaknesses and threats related to the context

A relative lack of integration / collaborations in the local neuroscience network, such as the neighbouring UMR 5229 and the Centre of Neuroscience, also localized in the nearby environment. The reasons for this situation have been clearly stated in the director report as well as orally during the visit. The team could clearly benefit from these interactions in both scientific and organisational terms. The research strategy of theme Reasoning may need further specification and strategical development. The integration of a new research theme, early speech development, that will be carried out by two new senior researchers may need further work to reinforce the coherence of research activities with other team members. Leadership of international projects has to be developed.

### Recommendations

A number of new challenges and specific objectives are brought out by the new research projects, especially topics on development of cognitive abilities; meanwhile L2C2 is a relatively small group in spite of the recent recruitment of several new researchers. The overlap between the research themes is considerable, hence tight interactions between the activities of researchers. The Director and her colleagues may want to work out optimized research strategies so as to distribute more clearly the respective assignments to be undertaken by each scientist according to a prioritized action plan for the next 5 years.