

FINAL RESUME ON THE RESEARCH UNIT:
Centre Giovanni Borelli (CGB)

UNDER THE SUPERVISION OF THE
FOLLOWING INSTITUTIONS AND
RESEARCH BODIES:

École normale supérieure Paris-Saclay

Centre National de la Recherche Scientifique –
CNRS

Université Paris Descartes

Service de Santé des Armées – SSA

EVALUATION CAMPAIGN 2018-2019
GROUP E



In the name of Hcéres¹:

Michel Cosnard, President

In the name of the experts committee²:

Bruno Torresani, 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 data provided by laboratories and supervising bodies in the unit's application and in the Excel files "Données du contrat en cours" and "Données du prochain contrat".

UNIT PRESENTATION

Unit name:	Centre Giovanni Borelli
Unit acronym:	CGB
Requested label:	UMR et ERL (COGNAC G)
Application type:	Restructuration
Current number:	8536 (CMLA) et 8257 (COGNAC G)
Head of the unit (2015-2019):	Mr Nicolas VAYATIS (CMLA) and Mr Pierre-Paul VIDAL (COGNAC G)
Project leader (2020-2024):	Mr Nicolas VAYATIS
Number of teams:	2

EXPERTS COMMITTEE MEMBERS

Chair:	Mr Bruno TORRESANI, Aix Marseille Université
Experts :	Mr Boris ANDREIANOV, Université de Tours (Représentant du CNU)
	Ms Agnès GRUART, Université de Séville, Spain
	Mr Rafael LABOISSIERE, Université Grenoble Alpes
	Ms Valérie PERRIER, Université Grenoble Alpes
	Ms Anne PHILIPPE, Université de Nantes (Représentante du CoNRS)
	Mr Liva RALAIVOLA, Aix Marseille Université
	Ms Céline ROZIER, Université de Toulouse Paul Sabatier (Représentante du Personnel d'Appui à la Recherche)
	Mr Eric SONNENDRUCKER, Max Planck Institute, Germany
	Mr Jean-Louis VERCHER, Aix Marseille Université

HCÉRES REPRESENTATIVE

Mr Marc QUINCAMPOIX

REPRESENTATIVES OF SUPERVISING INSTITUTIONS AND BODIES

Ms Clarisse LEFORT-DAVID, délégation régionale du CNRS

Mr Stefano MARULLO, Université Paris Descartes

Ms Catherine MATIAS, CNRS INSMI

Mr Keitaro NAKATANI, ENS Paris-Saclay

Mr Bernard POULAIN, CNRS INSB

Mr Christophe RENARD, Service de Santé des Armées

INTRODUCTION

HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

Centre Giovanni Borelli results from the merger of two units, CMLA and Cognac G.

CMLA was created on January, 1st 1990 at École normale supérieure de Cachan near Paris.

Cognac G was created in 2014 as a spin-off of CESEM (formerly LNRS). Cognac G is located in Paris at the "Centre Universitaire des Saints-Pères" and part of the "UFR Biomédicale des Saints-Pères". In addition, it is implanted in a military training medical center (École du Val-de-Grâce) and seven clinical departments: ENT (APHP Salpêtrière and HEGP), Rehabilitation (APHP Fernand Widal), Ophthalmology (CHU Necker), Anesthesia-Reanimation (HIA Bégin), Neurology (HIA Percy), Geriatrics (CHU Saint-Joseph La Réunion).

Centre Giovanni Borelli will be implanted on the two sites of CMLA (École Normale Supérieure Paris-Saclay) and Cognac G (rue des Saint-Pères, Paris).

MANAGEMENT TEAM

Director: Mr Nicolas Vayatis
 Vice-director CMLA: Mr Vianney Perchet
 Vice-director Cognac G: Mr Damien Ricard

HCÉRES NOMENCLATURE

ST1: Mathematics
 SVE1_LS5: Neurobiology

SCIENTIFIC DOMAIN

The research activities at Centre Giovanni Borelli include applied and computational mathematics, computer science and neurosciences, and interactions between these domains at various levels. The unit aims at producing both fundamental mathematical results, algorithms and software tools, technologies for large scale data acquisition and analysis, with a focus on behavioral, sensorimotor and neuroscience data, and combination of these.

UNIT WORKFORCE

	Unit workforce	
	CGB	
Active staff	Number 30/06/2018	Number 01/01/2020
Full professors and similar positions	9	11
Assistant professors and similar positions	8	10
Full time research directors (Directeurs de recherche) and similar positions	8	6
Full time research associates (Chargés de recherche) and similar positions	6	1
Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.")	0	2

High school teachers	0	0
Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)	10	14
Permanent staff	41	44
Non-permanent professors and associate professors, including emeritus	5	
Non-permanent full time scientists, including emeritus, post-docs	38	
<i>PhD Students</i>	38	
Non-permanent supporting personnel	18	
Non-permanent staff	99	
Total	140	

GLOBAL ASSESSMENT OF THE UNIT

The Centre Giovanni Borelli, expected to start in January 2020, is the result of the merger of two units, Centre de Mathématiques et Leurs Applications (CMLA) and Cognition and Action Group (Cognac G), which have already been successfully collaborating during the last four years.

The research records of CMLA in mathematics and computer science during the last five years are outstanding, as assessed by numerous publications in top level international journals and conferences. CMLA has also developed inter-disciplinary collaborations in various scientific domains as well as the non-academic world, at an exceptional level. Overall, the scientific and societal impact of CMLA research is remarkable. Members of CMLA were distinguished for their contributions in many ways, including the highest honors in mathematics.

The scientific project of Cognac G, which started only four years ago, is highly ambitious and timely and the research and technological outputs are very promising. The unit maintained strong collaborations with clinical services, and developed close relations with industry. The existing collaboration between the two units is the seed of the Centre Giovanni Borelli project.

The environment of CMLA has allowed the unit to benefit from a significant flow of highly skilled doctoral students, some of whom are already involved in collaborative projects within Cognac G. Younger students are also involved in joint projects at various levels.

The Centre Giovanni Borelli project is focused on the acquisition and analysis of massive sensorimotor data in the context of behavioral neuroscience. Following fruitful four years collaboration, the merger within a common research unit, including nearby offices in the Saints-Pères campus of Paris Descartes University, offers a unique opportunity for the development of advanced methods and technologies, and Centre Giovanni Borelli should become a reference center at the highest international level. The mathematics projects not anchored on the interface between mathematics, computer science and behavioral neurosciences are expected to pursue their scientific development at the highest level. Meanwhile, these projects might greatly benefit from the Centre Giovanni Borelli which will offer an environment with a wealth of new opportunities for interdisciplinary and industrial collaborations both in the Paris Descartes and Saclay campuses.

The localization of Centre Giovanni Borelli on two distant campuses may generate difficulties, for instance in terms of internal (scientific and non-scientific) communication and interaction with students and practical organization (due to the lack of efficient public transportations between Paris-downtown and the Saclay campus).

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