

# BABEL - De la diversité des populations à l'individu, de l'identification à l'identité

Rapport Hcéres

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## REPORT ON THE RESEARCH UNIT:

From population diversity to a unique individual,  
from identification to identity (BABEL)

## UNDER THE SUPERVISION OF THE FOLLOWING INSTITUTIONS AND RESEARCH BODIES:

Université Paris Descartes

Centre National de la Recherche Scientifique -  
CNRS

**ÉVALUATION CAMPAIGN 2017-2018**  
GROUP D



In the name of Hcéres<sup>1</sup>:

Michel Cosnard, President

In the name of the expert committee<sup>2</sup>:

Antti Sajantila, 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 expert 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).

This report is the sole result of the unit's 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 PRESENTATION

<b>Unit name:</b>	From population diversity to a unique individual, from identification to identity
<b>Unit acronym:</b>	BABEL
<b>Requested label:</b>	Unité Propre
<b>Application type:</b>	de novo creation
<b>Current number:</b>	
<b>Head of the unit (2017-2018):</b>	Not Applicable
<b>Project leader (2019-2023):</b>	Mr Bertrand LUDÉS
<b>Number of teams:</b>	1

## COMMITTEE MEMBERS

**Chair:** Mr Antti SAJANTILA, University of Helsinki, Finland

**Experts:** Ms Sophie GROMB-MONNOYEUR, Institut Médico-Judiciaire, Bordeaux (representative of CNU)  
Ms Veronica PEREDA, Université Paul Sabatier Toulouse (supporting personnel)

**HCERES scientific officer:**  
Mr Jean-François HOCQUETTE

**Representatives of supervising institutions and bodies:**  
Mr Stefano MARULLO, Université Paris Descartes

# INTRODUCTION

## HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

The BABEL is a new unit composed of researchers from the Institute of Legal Medicine (IML) in the Université Paris Descartes, gathering researchers from the IML, CNRS UMR 5288 AMIS (Molecular Anthropology and Synthesis Imaging, Toulouse), the former CNRS UPR 2147 (Dynamics of Human Evolution, Paris), and INTS (National Institute of Blood Transfusion, Paris). The proposed BABEL unit will be under the supervision of the University of Paris Descartes and CNRS, in association with the INTS and the Prefecture of Police in Paris.

## MANAGEMENT TEAM

The unit will be headed by Mr Bertrand Ludes from the Institute of Legal Medicine (IML) Université Paris Descartes, with a deputy head Ms Anne-Marie Bacon from the Centre National de la Recherche Scientifique (CNRS).

## HCERES NOMENCLATURE

SVE5; SVE6.

## SCIENTIFIC DOMAIN

The research topics of the BABEL project aim to take a fresh look at human identification, with a brave step beyond mainstream identity testing, based on standardized DNA-analysis, fingerprints and odontology. This is achieved by providing biological profile for the identity of an individual using modern extended DNA-geno- and phenotyping methods combined with epigenetic analysis for age estimation and ethno-geographical origins of the individual. The topics are applied in a large set of real-world forensic samples, which may vary from minute samples to highly destructed human corpses or part of them. In addition, a new approach is taken to analyse various trauma types, and contact material associated with them using modern imaging technology (micro-CT) and histology.

The core topics of the BABEL project can be grouped in classical disciplines as: forensic genetics, forensic pathology, forensic anthropology, human evolution, molecular anthropology and population genetics. In addition to the biomedical and natural sciences, the BABEL unit aims to borrow experts, methods and concepts also from humanities; sociology and psychology.

## UNIT WORKFORCE

Unit workforce	Number 30/06/2017	Number 01/01/2019
<b>Permanent staff</b>		
Full professors and similar positions	2	2
Assistant professors and similar positions	0	0
Full time research directors (Directeurs de recherche) and similar positions	2	2
Full time research associates (Chargés de recherche) and similar positions	1	1
Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.")	3	3

High school teachers	0	0
Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)	3	3
<b>TOTAL permanent staff</b>	<b>11</b>	<b>11</b>
<b>Non-permanent staff</b>		
Non-permanent professors and associate professors, including emeritus	0	
Non-permanent full time scientists, including emeritus, post-docs	0	
Non-permanent supporting personnel	0	
PhD Students	2	
<b>TOTAL non-permanent staff</b>	<b>2</b>	
<b>TOTAL unit</b>		
	<b>13</b>	

## GLOBAL ASSESSMENT OF THE UNIT

For the first time in Europe, such a multidisciplinary unit would be created to focus on the common theme of identification, and identity at large, in the complex context of legal medicine.

Each of the merging groups has a productive scientific background of their own. The unit members are dedicated to academic education.

With the success of the BABEL unit the Institute of Legal Medicine should establish itself as one of the leading institutes in its field in Europe, and – at the same time – a global example of the potential of multidisciplinary science around legal medicine with a difficult task to serve the rapidly changing society. Thus, there is an immediate impact of the results from BABEL project, which can be translated to practice and potential for commercial products.

To conclude, the scientists in the BABEL unit have an excellent international reputation and have very good chances to develop an attractive training program for PhD students and post-doctoral scientists. They also have immediate impact outside of academic world, e.g. with the application of the science to societal needs of police and judicial system.

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