

FINAL RESUME ON THE RESEARCH UNIT:  
International Center for Infectiology  
Research - CIRI

UNDER THE SUPERVISION OF THE  
FOLLOWING INSTITUTIONS AND  
RESEARCH BODIES:

Université Claude Bernard Lyon 1 -  
UCBL

ENS de Lyon

Institut national de la santé et de la  
recherche médicale - INSERM

Centre national de la recherche  
scientifique - CNRS

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**EVALUATION CAMPAIGN 2019-2020**  
GROUP A



In the name of Hcéres<sup>1</sup>:

Nelly Dupin, Acting  
President

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

Beat Imhof, 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 experts committees and signed by their chairman." (Article 8, paragraph 5);

<sup>2</sup> The evaluation reports "are signed by the chairman of the experts committee". (Article 11, paragraph 2).

Tables in this document were filled with data submitted by the supervising body on behalf the unit.

## UNIT PRESENTATION

<b>Unit name:</b>	International Center for Infectiology Research
<b>Unit acronym:</b>	CIRI
<b>Current label and N°:</b>	Inserm U1111 / CNRS UMR5308
<b>ID RNSR:</b>	201320572J
<b>Application type:</b>	Renewal
<b>Head of the unit (2019-2020):</b>	Mr François-Loïc COSSET
<b>Project leader (2021-2025):</b>	Mr François-Loïc COSSET
<b>Number of teams and/or themes:</b>	23 teams

## EXPERTS COMMITTEE MEMBERS

<b>Chair:</b>	Mr Beat IMHOF, retired of Medical Faculty, University of Geneva, Switzerland
	Ms Fabienne ANJUERE, CNRS, Valbonne
	Ms Clare BRYANT, University of Cambridge, Cambridge, United Kingdom
	Ms Sophie CONCHON, Inserm Nantes (representative of CSS)
	Mr Jeroen DEN DUNNEN, Amsterdam UMC, Amsterdam, Netherlands
	Ms Sophie DUCHEZ, CNRS Paris (supporting personnel)
	Mr Hesso FARHAN, University of Oslo, Oslo, Norway
	Ms Antje FLIEGER, Robert Koch-Institut, Deutschland
	Mr Friedrich GOETZ, University of Tübingen, Deutschland
	Ms Christine GOFFINET, Charité - Universitätsmedizin Berlin, Berlin, Deutschland
	Ms Allison GROSETH, Friedrich-Loeffler-Institut, Greifswald - Insel Riems, Deutschland
<b>Experts:</b>	Mr Benjamin HALE, University of Zurich, Zurich, Switzerland
	Mr Thomas KUFER, University of Hohenheim, Stuttgart, Deutschland
	Mr Nicolas LOCKER, University of Surrey, Guildford, United Kingdom
	Mr Mark MARSH, University College London, London, United Kingdom
	Ms Christine NEUVEUT, Inserm, Montpellier
	Mr Gavin PETTIGREW, Babraham Institute, Cambridge, United Kingdom
	Mr Pierre ROQUES, CEA, Fontenay-aux roses
	Mr Michael SCHINDLER, University Hospital Tübingen, Tübingen, Deutschland
	Mr Eike STEIMANN, Ruhr-University Bochum, Bochum, Deutschland
	Ms Laura TEMIME, Cnam, Paris
	Ms Kate TEMPLETON, University of Edinburgh, United Kingdom
	Mr François TROTTEIN, CNRS Lille (representative of CoNRS)

## HCÉRES REPRESENTATIVE

Ms Sophie EZINE

## REPRESENTATIVES OF SUPERVISING BODIES

Ms Guaiá CARRARA, INSERM

Mr Thierry DAUXOIS, École Normale Supérieure Lyon

Ms Aurélie DESOUS, CNRS

Mr Joël FAYOLLE, INSERM

Ms Sylvie GUERDER, CNRS

Ms Marlene MAZZORANA, INSERM

Mr Jean-François MORNEX, Université de Lyon

Mr Yannick RICARD, École Normale Supérieure Lyon

## INTRODUCTION

### HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

The International Center for Infectiology Research (Centre International de Recherche en Infectiologie, called CIRI) was created in 2013, with the goal of regrouping the 17 teams of excellence from the Lyon area working on key questions in infectious diseases including bacteriology, virology and immunology. Originally, it comprised two Inserm units working in human virology from ENS Lyon (École Normale Supérieure de Lyon) and UCBL (Université Claude Bernard Lyon 1), 12 teams working in Infection, Immunity and Vaccination from UCBL and three groups working on Legionella and emerging pathogens from CNRS, UCBL, Institut Pasteur and Fondation Mérieux.

About 86% of all CIRI members are located in three different buildings within the Lyon-Gerland campus (walking distance). They include ENS Lyon; the tower Inserm; and the IGFL (Institut de Génomique Fonctionnelle de Lyon), the building of ENS. About 14% of the CIRI groups are located further away at North-campus of LyonTech-LaDoua. Most of these teams will be relocated in 2021 to a new building within the Lyon Garland campus.

### MANAGEMENT TEAM

The director and deputy director of the CIRI Unit for the period 2016-2020 were François-Loïc Cosset and François Vandenesch respectively. Both will continue for the next period.

### HCÉRES NOMENCLATURE

SVE3\_1 Microbiologie  
 SVE3\_2 Virologie  
 SVE3\_4 Immunologie  
 SVE6\_1 Santé publique  
 SVE6\_2 Épidémiologie  
 SVE6\_3 Recherche clinique  
 SVE2\_1 Biologie moléculaire et structurale, biochimie  
 SVE2\_2 Génétique, génomique, bioinformatique, biologie systémique  
 SVE2\_3 Biologie cellulaire, biologie du développement animal  
 SVE5\_3 Génétique médicale, Pharmacologie, Technologie médicales  
 SVE5\_4 Cancer

### THEMATICS

Basic and clinical research in infectious diseases including bacteriology, virology and immunology.

### UNIT WORKFORCE

International Center for Infectiology Research (CIRI)		
Active staff	Number 06/30/2019	Number 01/01/2021
Full professors and similar positions	27	32
Assistant professors and similar positions	33	37
Full time research directors (Directeurs de recherche) and similar positions	13	15
Full time research associates (Chargés de recherche) and similar positions	22	22
Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.")	26	28
High school teachers	1	1
Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)	83	73

<b>Permanent staff</b>	<b>205</b>	<b>208</b>
Non-permanent professors and associate professors, including emeritus	13	
Non-permanent full time scientists, including emeritus, post-docs (except PhD students)	39	
PhD Students	64	
Non-permanent supporting personnel	25	
<b>Non-permanent staff</b>	<b>141</b>	
<b>Total</b>	<b>346</b>	<b>208</b>

## GLOBAL ASSESSMENT OF THE UNIT

CIRI is on its way to becoming an outstanding research and reference institution in France and internationally in the domains of virology, microbiology and immunology. It is one of the rare institutions in the field that unifies translational research with basic scientists and clinicians working hand in hand.

The publication record is excellent as a significant proportion of the articles appeared in top rated journals. The members of CIRI are connected by a remarkable network of national and international collaborators and institutions. This is further fostered by hosting or partnering with biobanks and national reference centres. Scientific highlights by CIRI members are seminal discoveries and include the development of a vaccine for Lassa mammarenavirus, the identification of novel cellular receptors that recognize the clinically relevant bacterium *S. aureus*, the discovery that hepatitis D virus (HDV), that relies on helper virus HBV envelope, can also envelope with viruses such as HCV, VSV or flavivirus making infection independent of HBV. They also found that plasmacytoid dendritic cells interacting with infected cells use interferogenic synapses for a polarized, IFN driven immune response and they described novel mechanisms underlying pyrin-associated autoinflammatory diseases. Other examples are the initiation of clinical trials and establishment of technologies such as animal models, DNA editing tools and the isolation of reprogramed bat stem cells as tools to investigate zoonotic infectious diseases. The Inserm P4 laboratory located on the CIRI site, with non-human primate capacity is unique in Europe and very rare world-wide. Members of CIRI were successful in obtaining many international and national competitive grants, including ERC, H2020, NSF, JSPS, NIH, World Bank, FAO, ANR, ANRS, or Inca. They also obtained investment programs for the future including LabEx Ecofect, and they attracted grants from foundations, charities and the industry. The international character of CIRI is also illustrated by the many visiting scientists of whom 19 were foreigners. Similarly, of almost 40 post-docs, 8 are from abroad. Finally, members received 25 prizes such as the CNRS bronze medal, IUF membership and membership of the French academy of medicine.

In terms of interactions with the non-academic world CIRI is outstanding. The teams translated their research by filing and licensing a large number of patents that should lead to relevant applications for public health, creating star-ups and obtaining numerous contracts with industrial partners. Visibility is also highlighted by public management and outreach in the media concerning human infectious disease outbreaks in newspapers magazines and TV.

Regarding training in science, CIRI members organize and/or participate in bachelor and master courses in basic and medical sciences in their domains of infectious diseases and immunology and they are involved in local PhD programs and in the EU.

Concerning the projects and the strategy for the next five years, the evolution of the 23 scientific teams show continuation of successful research lines as well as innovative new directions. However, promotion of collaborations between the different CIRI teams via intramural funding will increase productive synergies, the scientific productivity and the collaborative network to acquire prestigious international grants.

Overall, we rate the actual CIRI as excellent.

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