Research evaluation

FINAL RESUME ON THE RESEARCH UNIT

DynaMicURe - Dynamique Microbienne associée aux infections Urinaires et Respiratoires

UNDER THE SUPERVISION OF THE FOLLOWING INSTITUTIONS AND RESEARCH BODIES:

Université de Rouen
Université de Caen Normandie - UNICAEN

EVALUATION CAMPAIGN 2020-2021
GROUP B

Report published on August, 26 2021

In the name of Hcéres[1]:	In the name of the experts committee[2]:
Mr Thierry Coulhon, President	Ms Delphine Muriaux, Chairwoman 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 certified data submitted by the supervising body on behalf of the unit.

UNIT PRESENTATION

Unit name:

Dynamique Microbienne associée aux infections Urinaires et Respiratoires

Unit acronym:

DynaMicURe

Current label and N°:

EA 2656

ID RNSR:

199814170R

Application type:

Fusion, scission, restructuration

Head of the unit (2020-2021):

Mr Jean-Christophe Plantier

Project leader (2021-2025):

Mr Jean-Christophe Plantier

Number of teams and/or themes:

1

EXPERTS COMMITTEE MEMBERS

Chair:	Ms Delphine Muriaux, CNRS de Montpellier
Experts:	Ms Mathilde Bonnet, Université Clermont Auvergne, Clermont-Ferrand (representative of INSERM CSS) Mr Stéphane Fontanay, Université Claude Bernard Lyon 1, Villeurbanne (supporting personnel) Mr Pierre-Édouard Fournier, Aix-Marseille Université, Marseille (representative of CNU) Ms Éve Todesco, Assistance publique - Hôpitaux de Paris

HCÉRES REPRESENTATIVE

Ms Birke Bartosch

REPRESENTATIVES OF SUPERVISING INSTITUTIONS AND BODIES

Mr Joël Alexandre, Université de Rouen Normandie

Mr Éric Leroy Du Cardonnoy, Université de Caen Normandie

Mr Vincent Richard, Université de Rouen Normandie

INTRODUCTION

HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

The "Groupe de Recherche sur les Antimicrobiens et les Micro-organismes" (GRAM1.0, EA 2656) was created in 1998 to structure work on infectious diseases at the Medicine and Pharmacy Faculties of the University of Rouen. Since 2012, GRAM1.0 had been directed by Mr François Caron.

The "Unité de Recherche Risques Microbiens", U2RM EA4655, was part of the Fundamental and Applied Biology Institute (IBFA) located at the Campus 1 of the University of Caen Basse-Normandie. The unit had resulted from the fusion, in January 2012, of the "Laboratoire de Microbiologie de l'Environnement" (EA956, USC INRA 2017) and the research unit "Relations Hôte et Microorganismes des Epithéliums" (EA2128). Since 2012, the unit, headed by Mr Alain Rincé and later by Mr Axel Hartke, has been structured into three themes related to physiology, pathology and antibiotic resistance of Enterococci and respiratory viruses. In 2017, Team E3 "Virologie Respiratoire Comparée" of U2RM (EA4655), located at the site G. Clémenceau of Caen University Hospital, joined the unit GRAM1.0 located at the University of Rouen to become GRAM2.0.

The current unit, "Groupe de Recherche sur l'Adaptation Microbienne" GRAM2.0 has been headed by Mr Jean Christophe PLANTIER since 2019. GRAM2.0 proposes now to fuse with Team E2 of U2RM (EA4655) located at the site Cote de Nacre at Caen University Hospital and is now applying for re-creation with the future title DynaMicURe.

RESEARCH ECOSYSTEM

Located on two sites, the DynaMicURe unit is attached to the Health UFRs of Caen and Rouen, under the joint supervision of the Universities of Caen and Rouen Normandie, united within the ComUE. On each site, the unit is part of a university research federation, called the Institute for Research and Innovation in Biomedicine (IRIB) for Rouen and Interactions Cells Organisms Environment (ICORE) for Caen. These federations bring together biomedical research laboratories, comprising technical platforms and labelled platforms (for analyses and equipment for high throughput sequencing - NGS). These structures facilitate technical collaborations with other Normandy teams (from INSERM, CNRS or ANSES). These federations are associated with the Biomedical axis of the Chemistry and Biology Applied to Health and Well-Being (CBSB) pole of ComUE Normandie University. This axis brings together most of the teams integrated into the UFR Santé invested in the health sector.

On the hospital side, the unit is associated with the Fédération Normande Microbiologie-Infectiologie-Hygiène (FéNoMIH), a federative hospital-university structure between the University Hospitals of Caen and Rouen, created in 2017, the objective of which is to amplify the synergy between the fields of care, teaching, training, and hospital research. The unit's theme of infectious diseases has been identified as an axis of the Federation. In this context, DynaMicURe hosts two CNRs (Measles-Mumps-Rubella for the Caen site and HIV for the Rouen site).

HCÉRES NOMENCLATURE AND THEMATICS OF THE UNIT

SVE Sciences du vivant et environnement

SVE3_1, SVE3_2, SVE6_3

MANAGEMENT TEAM

The management team is composed of the unit director Mr Plantier located at Rouen and two associate directors, Mr Le Hello at Caen and Ms Pestel-Caron at Rouen, and Ms Legris for the unit administration.

UNIT WORKFORCE

Active staff	Number 06/01/2020	Number 01/01/2022
Full professors and similar positions	12	13
Assistant professors and similar positions	3	6
Full time research directors (Directeurs de recherche) and similar positions	0	0
Full time research associates (Chargés de recherche) and similar positions	0	0
Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.")	0	0

High school teachers	0	0
Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)	13	20
Permanent staff	**28**	**39**
Non-permanent professors and associate professors, including emeritus	0	
Non-permanent full time scientists, including emeritus, post-docs (except PhD students)		
PhD Students	8	
Non-permanent supporting personnel	4	
Non-permanent staff	**12**	
Total	**40**	**39**

GLOBAL ASSESSMENT OF THE UNIT

The unit GRAM2.0 was created in 2017. In the perspective of a restructuration for a new project on adaptation and microbial infections, the unit is now fusing with Team E2 of U2RM (EA4655), the latter comprising six statutory researchers, and applying for recreation under the name DynaMicUre.

An ascendant progression of this unit is noticeable. Past scientific achievements of GRAM2.0 unit were on the field of bacterial (Staphylococcus, Enterobacterales) and viral infections, especially respiratory and chronical (HIV-1) infections. Overall, GRAM2.0 as well as the incoming Team E2 of U2RM have a very good publication record: 90 articles for GRAM2.0 and thirteen for U2RME2 with unit members as first or last authors in journals of the unit's specialties (*Clinical infectious Diseases, Lancet HIV, Frontiers in Microbiology, Journal of Antimicrobial Chemotherapy, Emerging infectious Diseases, Journal of Infectious Diseases*). However, the number of high-profile publications is low.

The unit has been very successful at attracting national (16 as coordinator, 7 as partner comprising three ANR (2 as leader) and seven ANRS or national consortium grants) and regional (10) grants, well distributed over the bacterial and viral research axes, but the unit is not involved in any international or European grants or consortia.

The national recognition of the unit is illustrated for example by the porting of the CNRs on Measle-Mumps-Rubella for the Caen site and on HIV for the Rouen site, by the numerous evaluation activities by unit members (ANSM, ANSES, HAS, ANRS) and by its coronavirus expertise, the latter having increased the unit international visibility.

The interaction with industry is excellent with nine privately funded projects (Abbott, Alere, BD, Biomérieux, Cepheid, Hologic, Roche) on diagnostic assays and strain delivery and one contract with Merck (DORAVI-O-project) and Jansen for research activities), especially for developing microbe diagnostic tests and genotyping.

The involvement of DynaMicUre's members (GRAM2.0 and Team E2 of U2RM combined) in training through research has been very good as illustrated by the training of 23 PhD students for fifteen HDR, fifteen PhD defenses during the period with 2.5 publications/student for Gram2.0 and 3.25 publications/student for team E2 of U2RM, respectively in journals like *AIDS, Clinical Infectious Diseases, Frontiers in Microbiology, Vaccine*. The average duration of PhD is however too long with 49.5 months at GRAM2.0, but very good with 39 months at U2RM.

New major scientific objectives of the DynaMicUre unit will be structured into two axes with focus on 1) bacterial uropathogens and 2) bacterial and viral respiratory infections along with a reorientation of the former HIV axis towards respiratory viruses. Research activities consist in studying microbial adaptation in terms of molecular epidemiology, genetic/phenotypic evolution, pathogenicity, persistence and resistance. Both axes are well balanced and address major public health concerns.

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