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## IRSET - Institut de recherche en santé environnement et travail

Rapport Hcéres

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# HCERES

High Council for the Evaluation of Research  
and Higher Education

Research units

HCERES report on research unit:

Research Institute for Environmental and  
Occupational Health

IRSET

Under the supervision of  
the following institutions  
and research bodies:

Université de Rennes 1

École des Hautes Études en Santé Publique - EHESP

Institut National de la Santé et de la Recherche

Médicale - INSERM

Université d'Angers - UA

Université des Antilles

# HCERES

High Council for the Evaluation of Research  
and Higher Education

Research units

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

Michel Cosnard, president

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

Olle Söder, chairman of the committee

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Under the decree No.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 sole result of 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 name:	Institute of Research on Environment and Occupational Health
Unit acronym:	IRSET
Label requested:	UMR Inserm & Rennes 1 University
Current number:	Inserm UMR 1085
Name of Director (2015-2016):	Mr Bernard JEGOU
Name of Project Leader (2017-2021):	Mr Bernard JEGOU

## Expert committee members

Chair:	Mr Olle SÖDER, Karolinska Institute Stockholm, Sweden
Experts:	Mr Robert BAROUKI, University Paris Descartes, Paris
	Ms Francesca CHIODI, Karolinska Institute Stockholm, Sweden
	Mr Jean-Charles DUCLOS-VALLÉE, Hôpital Paul Brousse, Villejuif
	Mr Benjamin GILLET, Institut de Génomique Fonctionnelle, Lyon
	Mr Tobias KURTH, Charité-Universitätsmedizin, Berlin (representative of Inserm CSS)
	Ms Dona MERGER, University of Quebec, Canada
	Ms Catherine POSTIC, Institut Cochin, Paris

### Scientific delegate representing the HCERES:

Mr Pierre COUBLE

### Representatives of supervising institutions and bodies:

Mr Guy CATHELINEAU, Rennes 1 University

Mr Laurent CHAMBAUD, EHESP

Ms Christine GUILLARD, Inserm

Research Institute for Environmental and Occupational Health, IRSET, U Rennes 1, EHESP Rennes, INSERM, U Angers, U Antilles, Mr Bernard JEGOU

Mr Claude LABIT, Rennes 1 University

Ms Isabelle RICHARD, University of Angers

Head of Doctoral School:

Ms Nathalie THERET, Doctoral School n° 92 "Vie, Agronomie et Santé"

## 1 • Introduction

### History and geographical location of the unit

Following an initiative in 2009 to merge several local research teams and technological activities in Rennes, the Research Institute for Environmental and Occupational Health (IRSET) was first created as a “local” unit. After the joining of several additional teams, the “national” IRSET was formally created on January 2012. IRSET was formed by combining ten different research teams. IRSET is mainly (>80% of staff) based in Rennes and a major goal has been to move the research teams together into one single building. Such facility was recently finalized (>7,000 m<sup>2</sup>), to which several IRSET teams have already moved. One team of the unit is located in Angers, and a special branch in the French West Indies (Guadeloupe).

On January 2012, IRSET hosted 136 permanent staff members. At the onset of the coming 5-year period, IRSET will host 165 members with tenure.

### Management team

IRSET is governed by a management team that consists of Mr Bernard JEGOU (director), Ms Dominique LAGADIC-GOSSMANN (deputy director) and Mr Denis ZMIROU-NAVIER (deputy director). Mr Michel SAMSON will take over the position as director from 2019.

### HCERES nomenclature

Principal:

SVE1\_LS1 Molecular biology, Structural biology, Biochemistry

Secondary:

SVE1\_LS4 Physiology, Physiopathology, Endocrinology

SVE1\_LS2 Genetics, Genomics, Bioinformatic, Systems biologie

SVE1\_LS7 Clinical research, Public health

### Scientific domains

Immunology - Infectiology - Toxicology - Reproduction and development - Cancerology - Genomics, Transcriptomic, Proteomic - Epidemiology - Metrology, Exposure assessment - Health at work - Systems biology - Neuroendocrinology - Endocrine disruption - Public health.

### Unit workforce

Unit workforce	Number on 30/06/2015	Number on 01/01/2017
N1: Permanent professors and similar positions	51	67
N2: Permanent researchers from Institutions and similar positions	25	30
N3: Other permanent staff (technicians and administrative personnel)	65	68
N4: Other professors (Emeritus Professor, on-contract Professor, etc.)	2	
N5: Other researchers from Institutions (Emeritus Research Director, Postdoctoral students, visitors, etc.)	15	
N6: Other contractual staff (technicians and administrative personnel)	30	
N7: PhD students	43	
<b>TOTAL N1 to N7</b>	<b>231</b>	
Qualified research supervisors (HDR) or similar positions	51	

Unit record	From 01/01/2010 to 30/06/2015
PhD theses defended	69
Postdoctoral scientists having spent at least 12 months in the unit	22
Number of Research Supervisor Qualifications (HDR) obtained during the period	17

## 2 • Overall assessment of the unit

### Introduction

IRSET's vision is to improve human health by studying biological processes and environmental factors influencing them, helping public authorities to make informed decisions. A founding objective is to establish a world-class research and educational center meeting the increasing societal needs. One major goal has been to relocate the participating research teams into one single building, a process that is currently underway.

## Global assessment of the unit

IRSET's objective is to establish a world-class research and educational centre meeting the increasing societal needs, with a vision to improve human health by studying how biological processes may be influenced by environmental factors. In the present context this includes the socioeconomic, physical, chemical and biological environment. Presently, IRSET hosts 231 staff members including more than 75 permanent scientists. IRSET has excellent and unique complementary expertise in a number of highly relevant research areas of importance for public health, employing basic, translational and epidemiological approaches. There are associated technical platforms at the cutting edge of international frontline of technology. IRSET brings together several teams with excellent recognition and international reputation. The scientific achievements of the last 5 years are excellent or outstanding. Collaboration with the private sector has led to patents and contributions to pharmaceutical drug development. The publication record of the last 5 years is excellent, with many papers published in journals with high impact factor. IRSET is well granted. IRSET members are frequently engaged providing expertise to authorities and public bodies, and frequently appear in lay media. The proposed future projects are coherent, relevant and original.

## Strengths and opportunities in the context

From its start, IRSET has developed its infrastructure and has grown large enough to be able to host a critical mass of expert scientists within different but relevant areas. This has enabled multidisciplinary scientific approaches focusing on very timely topics of high societal and public health value and relevance. The attractiveness of such a distinct institutional body should not be underestimated. IRSET will exert gravity forces on staff (established scientists, PhD students, post-docs, etc.) for recruitments as well as industry partners, health care, public authorities, NGOs and public media for collaboration. Guided by outstanding leadership, IRSET has already exploited several of these opportunities, although there are potentials for much more in the future. In particular, the excellent or outstanding scientific achievements in the areas of environmental (including occupational) impact on biological processes such as signalling, cellular stress response, immunology, endocrinology, reproduction and others should be further pursued. The ongoing cohort studies in France and Guadeloupe investigating interactions of social and environmental determinants of health hold great promises.

## Weaknesses and threats in the context

IRSET is growing by the addition of new senior researchers in the next few years and there is an ongoing relocation to the new building. While the potentials of these processes are obvious, there may be a risk that this will slow down the scientific production, as efforts have to be shared with activities of integration of new members and relocation planning and moving.

Several projects would benefit from internal access to expert epidemiologists and a social scientist.

There is a need for more post-doctoral fellows in some teams, preferentially with international background. This would add skilled working capacity and novel input.

More organized institutional common activities for PhD students are warranted. This includes career planning and common seminar series with internal and external speakers.

Funding in general is good but divided into many smaller grants. There should be attempts to attract bigger international grants securing the economy if national sources are weaning. Sex and gender dimensions of many projects should be more appreciated.

## Recommendations

IRSET should continue research in its areas of expertise and develop a clear innovative research agenda to evaluate effects on human health.

The development of an international network and of collaboration with important national and international clinical research units should be encouraged. This could be partly achieved by taking advantage of the integration of new staff with more translational orientation.

The focus on reproductive biology and toxicity should be maintained.

IRSET should recruit an epidemiologist and a social sciences researcher.

The dissemination of scientific policies and strategies within the institute and teams should be improved.

The size of grants should be increased by applying to international granting bodies.

More collaborations with the private sector should be encouraged with the aim to develop more patents including new medicines.

The access to the technically very advanced tools and platforms within or associated with IRSET should be fully exploited to reach their full potentials.

More attention should be given to sex and gender differences and analyses.