Research evaluation

# FINAL RESUME ON THE RESEARCH UNIT:
Molecular Radiotherapy and Innovative Therapeutics

# UNDER THE SUPERVISION OF THE FOLLOWING INSTITUTIONS AND RESEARCH BODIES:
Université Paris-Sud
Institut national de la santé et de la recherche médicale – Inserm
Institut Gustave Roussy

**EVALUATION CAMPAIGN 2018-2019**
GROUP E

Report published on March, 19 2019

High Council for evaluation of research and higher education

In the name of Hcéres[1]:

Michel Cosnard, President

In the name of the experts committee[2]:

Martin Pruschy, 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:** | Molecular Radiotherapy and Innovative Therapeutics |
| **Unit acronym:** | n/a |
| **Requested label:** | Inserm UMR 1030 |
| **Application type:** | Renewal |
| **Current number:** | Inserm U 1030 |
| **Head of the unit (2018-2019):** | Mr Éric DEUTSCH |
| **Project leader (2020-2024):** | Mr Éric DEUTSCH |
| **Number of team:** | 1 |

# EXPERTS COMMITTEE MEMBERS

| | |
|---|---|
| **Chair:** | Mr Martin PRUSCHY, University Hospital Zurich, Switzerland |
| **Experts:** | Mr Olivier CLÉMENT, Hôpital européen Georges-Pompidou , Paris (representative of Inserm CSS) |
| | Mr Vincent GREGOIRE, Université de Lyon (representative of CNU) |
| | Mr Mathieu HATT, Inserm Brest |
| | Ms Patricia LE SAEC, Université de Nantes (supporting personnel) |

# HCÉRES REPRESENTATIVE

Mr Dimitris VISVIKIS

# REPRESENTATIVES OF SUPERVISING INSTITUTIONS AND BODIES

Mr Etienne AUGE, Université Paris Sud

Mr Marc HUMBERT, Université Paris Sud

Ms Laurence PARMANTIER, Inserm

# INTRODUCTION

## HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

The Research Unit "Molecular Radiotherapy and Innovative Therapeutics" originally created in 1998 derives from an initiative to perform university-associated research in the area of Tumor Radiobiology (initiated by Institute Gustave Roussy, Institut de Radioprotection et Sureté Nucléaire (IRSN) and University Paris Sud). It later was labelised Inserm (now Inserm UMR1030, Molecular Radiotherapy), became affiliated to the Institut de Recherche en Cancérologie de Villejuif and is headed since 2012 by Eric Deutsch.

The research unit is located at the Institut Gustave Roussy, Villejuif.

## MANAGEMENT TEAM

Head of Unit: Eric Deutsch.
Deputy head: Jean-Luc Perfettini.

## HCÉRES NOMENCLATURE

SVE5; SVE3.

## SCIENTIFIC DOMAIN

Research in the Unit "Molecular Radiotherapy and Innovative Therapeutics" is located in the area of basic and applied Radiation Biology and Radiation Oncology. The projects bridge a broad range of topics from investigations on radiation-induced cell death to the identification of novel biomarkers in the field of functional imaging and radiomics. A strong focus exists at the interface of radiobiology/radiotherapy and cancer immunobiology/immunotherapy.

## UNIT WORKFORCE

| | **Unit workforce** | |
|---|---|---|
| | **Molecular Radiotherapy** | |
| **Active staff** | **Number 30/06/2018** | **Number 01/01/2020** |
| Full professors and similar positions | 1 | 1 |
| Assistant professors and similar positions | 1 | 1 |
| Full time research directors (Directeurs de recherche) and similar positions | 2 | 1 |
| Full time research associates (Chargés de recherche) and similar positions | 0 | 0 |
| Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.") | 2 | 2 |
| High school teachers | 0 | 0 |
| Supporting personnel (ITAs, BIATSSs and others, notably of EPICs) | 3 | 2 |

| | | |
|---|---|---|
| **Permanent staff** | **9** | **7** |
| Non-permanent professors and associate professors, including emeritus | 0 | |
| Non-permanent full time scientists, including emeritus, post-docs | 17 | |
| *PhD* Students | 9 | |
| Non-permanent supporting personnel | 1 | |
| **Non-permanent staff** | **18** | |
| **Total** | **27** | |

# GLOBAL ASSESSMENT OF THE UNIT

Research is based on basic and applied Radiation Biology and Radiation Oncology. Research activities were structured for the last 5 years into 3 major research axis, namely: i) cell death related research; ii) tumor microenvironmental processes in response to irradiation; iii) radio-immunobiology-oriented research. A fourth axis has been installed on the level of multi-modal functional imaging and radiomics. Preclinical research of axes 1-3 are strongly defined by the two heads of research coming from different background. Thereby a fruitful interface with regards to scientific research and translationability has been created leading to a high level of scientific publications and a very high amount of patent applications over the last 5 years. Overall, the research program has integrated comprehensive and in part complementary biology-oriented research axes, which are all of current interest and of relevance to modern radio-oncology.

The research axis dedicated on computational imaging and radiomics is a relatively new activity in the team. The team has been able to establish a good methodological pipeline and to obtain interesting results and high ranked publications on high quality clinical and biological data. This axis is mainly based on external collaborations with e.g. École Centrale and a non-academic partner. They now need to overcome the limitations associated with their limited permanent staff positions and the resulting requirement of outsourcing engineering and artificial intelligence skills to external partners, in order to fully realize their full potential in that field.

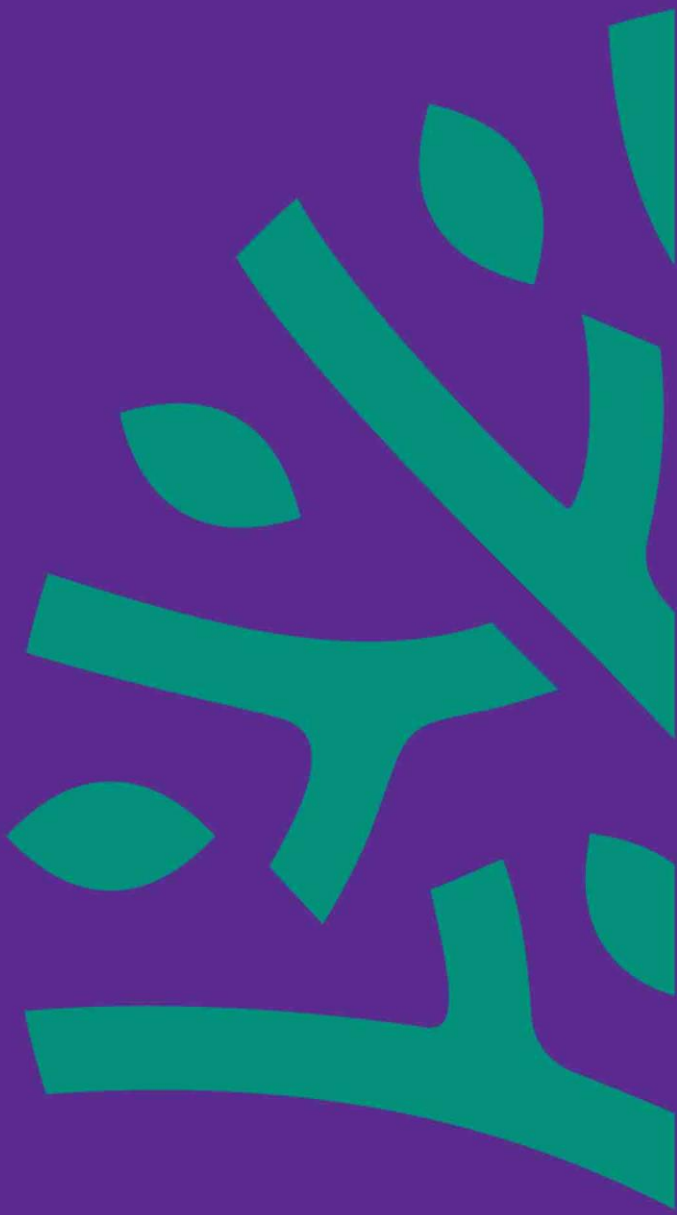
Overall and by reference to international standards, the research unit belongs to the leading centers of applied radiobiology research in Europe. The scientific output is exceptional for the radiobiology environment and overall excellent in comparison to preclinical oncology research at the European level.

The research unit includes a sufficient critical mass of PhD-students and postdoctoral fellows to run a successful research program; on the other hand full integration of clinicians and clinician scientists from the clinical unit of radiation oncology into a bed-to-bench-site approach of translational research has not been accomplished so far. Likewise, only a limited number of permanent positions is currently available, which might represent a long-term handicap for the sustainability of the research group with regards to the long-term research program, and challenging for the ITAs with regards to methodological approaches.

The research projects and outline for the next funding period is highly innovative and original and at the forefront of current radiobiology research, with a great potential to shape novel concepts in the field of applied modern radiobiology. It derives from the results of the former very successful research period but also integrates novel insights from the international research community. Its feasibility is high with regards to methodological and structural aspects of the research unit.

The evaluation reports of Hceres
are available online : www.hceres.com

**Evaluation of clusters of higher education and research institutions**
**Evaluation of higher education and research institutions**
**Evaluation of research**
**Evaluation of doctoral schools**
**Evaluation of programmes**
**International evaluation and accreditation**



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