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IRCAN - Institute for research on cancer and ageing, Nice

Rapport Hcéres

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Rapport d'évaluation d'une entité de recherche. IRCAN - Institute for research on cancer and ageing, Nice. 2017, Université Nice Sophia Antipolis, Centre national de la recherche scientifique - CNRS, Institut national de la santé et de la recherche médicale - INSERM. hceres-02030291

HAL Id: hceres-02030291

<https://hal-hceres.archives-ouvertes.fr/hceres-02030291v1>

Submitted on 20 Feb 2019

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HCERES

High Council for the Evaluation of Research
and Higher Education

Department of Research Evaluation

report on research unit:

Institute for Research on Cancer and Aging, Nice

IRCAN

under the supervision of
the following institutions
and research bodies:

Université Nice Sophia Antipolis

Centre National de Recherche Scientifique - CNRS

Institut National de la Santé et de la Recherche
Médicale - INSERM

Evaluation Campaign 2016-2017 (Group C)

HCERES

High Council for the Evaluation of Research
and Higher Education

Department of Research Evaluation

In the name of HCERES,¹

Michel Cosnard, president

In the name of the experts committee,²

Jonathan Weitzman, chairman of the
committee

Under the decree No.2014-1365 dated 14 november 2014,

¹ The president of HCERES "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 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 for Research on Cancer and Aging, Nice
Unit acronym:	IRCAN
Label requested:	UMR
Current number:	CNRS UMR 7284 - INSERM U1081
Name of Director (2016-2017):	Mr Éric GILSON
Name of Project Leader (2018-2022):	Mr Éric GILSON

Expert committee members

Chair:	Mr Jonathan WEITZMAN, Université Paris Diderot, Paris
Experts:	Mr Julien CAU, Institut de Génétique Humaine, Montpellier (representative of supporting personnel)
	Mr Jesus GIL, Imperial College, London, UK
	Ms Michèle GOODHARDT, CNRS-Université Paris Diderot, Paris
	Ms Véronique MAGUER-SATTA, Centre de Recherche en Cancérologie de Lyon (representative of the CoNRS)
	Mr Philippe PASERO, Institut de Génétique Humaine, Montpellier
	Ms Claire RODRIGUEZ-LAFRASSE, Université Claude Bernard, Lyon (representative of the CNU)
	Mr Claude SARDET, Institut de Recherche en Cancérologie de Montpellier-INSERM, Montpellier
	Mr De-Li SHI, Université Pierre et Marie Curie-CNRS, Paris (representative of the INSERM CSS)
	Ms Madalena TARSOUNAS, University of Oxford, Oxford, UK
	Ms Aleksandra TRIFUNOVIC, University of Cologne, Cologne, Germany

Scientific delegate representing the HCERES:

Ms Urszula HIBNER

Representatives of supervising institutions and bodies:

Mr Benoit DEBOSQUE, CNRS

Mr Dominique NOBILE, INSERM

Ms Frédérique VIDAL, Université Nice Sophia Antipolis

Head of Doctoral School:

Mr Thomas LAMONERIE, ED n° 85, « Sciences de la Vie et de la Santé »

1 • Introduction

History and geographical location of the unit

The Institute for Research on Cancer and Aging, Nice (IRCAN) was established to bring together researchers with a shared interest in the fundamental molecular mechanisms of aging and clinical links with age-related pathologies, especially cancer. The institute was created in 2012 by the University of Nice Sophie Antipolis (UNS), INSERM and CNRS. The aim was to build a continuum of scientific projects from basic research to clinical applications. The institute integrates molecular and genomic technologies with a wide range of disease models, cellular systems and experimental approaches using different organisms. The institute is housed on the Pasteur Campus and partners with the Center Antoine Lacassagne (CAL) and the Nice University Hospital (CHUN). The institute is composed of 15 research teams, which are scientifically and financially independent, but work collaboratively whenever possible.

Management team

The director (Mr Éric GILSON) is assisted by the deputy director (Mr Guerrino MENEGUZZI).

HCERES nomenclature

Principal: SVE5 Physiologie, Physiopathologie, Cardiologie, Pharmacologie, Endocrinologie, Cancer, Technologies Médicales.

Secondary: SVE2 Biologie Cellulaire, Imagerie, Biologie Moléculaire, Biochimie, Génomique, Biologie Systémique, Développement, Biologie Structurale;

SVE6 Santé Publique, Épidémiologie, Recherche Clinique;

SVE3 Microbiologie, Immunité.

Scientific domains

Research at IRCAN covers a broad range of subjects related to aging and cancer. These include teams working on telomeres and senescence, telomerase and stem cell homeostasis. The team working on the link between aging and diabetes is not part of the next 5-year project. A number of teams develop projects focused on genome integrity, retrotransposons, and DNA damage responses. A team works on mitochondrial diseases and another studies embryogenesis and regeneration models. A number of groups study tumour progression, epithelial homeostasis and epithelial cancers, tumor-stromal interactions and solid tumour biology. The teams use a combination of interesting experimental models including mice and rats, zebrafish, yeast and sea anemones.

Unit workforce

Unit workforce	Number on 30/06/2016	Number on 01/01/2018
N1: Permanent professors and similar positions	25	20
N2: Permanent researchers from Institutions and similar positions	29	29
N3: Other permanent staff (technicians and administrative personnel)	51	48
N4: Other researchers (Postdoctoral students, visitors, etc.)	27	
N5: Emeritus	28	
N6: Other contractual staff (technicians and administrative personnel)	25	
N7: PhD students	29	
TOTAL N1 to N7	214	
Qualified research supervisors (HDR) or similar positions	35	

Unit record	From 01/01/2011 to 30/06/2016
PhD theses defended	19
Postdoctoral scientists having spent at least 12 months in the unit	16
Number of Research Supervisor Qualifications (HDR) obtained during the period	9

2 • Assessment of the unit

Global assessment of the unit

This is the first evaluation of the Institute for Research on Cancer and Aging, Nice (IRCAN) since its creation in 2012. In general, the project can be considered to be a resounding success. The creation of the institute was a combined effort of the University of Nice Sophie Antipolis (UNS), INSERM and CNRS to create a world-class research institute dedicated to aging and cancer. The institute is housed on the Pasteur Campus and partners with the Center Antoine Lacassagne (CAL) and the Nice University Hospital (CHUN). The institute is composed of 15 research teams, which are scientifically and financially independent, but work collaboratively whenever possible. The creation of IRCAN was timely and has driven a coordinated research effort to explore parallels between aging and cancer pathologies and to build expertise that covers the spectrum from molecular mechanisms to translational research and patient care. This is still very much “work in progress” but the director and team leaders should be commended for this strong collaborative effort.

The Institute benefits from the exceptional quality of its scientific leadership and the international reputation of its director. The director has been assisted by a group of established team leaders with expertise in cancer and strong credentials in translational research. This has allowed the Institute to attract a large number of new teams and to allow the emergence of young teams from within. The institute has been able to recruit impressive staff at all levels, including new team leaders from France and abroad (Germany, Singapore, Portugal) and a significant number of “chargés de recherche” in national competitions. Many of the emerging teams obtained national funding from the Atip-Avenir program. The relatively large number of integrating and emerging teams has resulted in several young teams that are still relatively fragile. Care will be needed to ensure that these new teams (often run by team leaders who are new to the French system) continue to grow, to recruit post-docs, students and permanent staff, to publish in high-impact journals, and to attract national and international funding. This will require careful mentoring by senior faculty and more collaboration between junior and senior teams.

The institute integrates molecular and genomic technologies with a wide range of disease models, cellular systems and experimental approaches using different organisms (mice, rats, zebrafish and yeast). This provides a rich environment for cross-fertilisation between teams and disciplines. In addition, the institute invested heavily in the creation of shared core facilities (including an animal housing platform, a microscopy platform, a genomics platform, a cytometry platform, a histology platform and a shared bioinformatics service). This is impressive for an institute of this size and is made possible by the commitment of a large number of participants from the different teams. The creation of a large number of technical platforms is impressive, but it is likely to place a burden on resources moving forward and will require choices about where is best to invest.

Finally, some teams have a strong clinical involvement and the links between basic bench research and medical practise are beginning to be forged. Thus, the creation of an institute dedicated to aging and cancer and the active recruitment of young and dynamic teams has produced an institute with excellent science and an emerging reputation in these two fields.

While the research output across the teams is very good to excellent, and despite significant achievements, there is still room for improvement. Greater ambition is needed to reach the outstanding quality and reputation that many of the teams are capable of. The clinically oriented teams could benefit more from the molecular and mechanistic expertise of their neighbouring teams. Conversely, some of the more fundamental biology projects could benefit from the medical expertise available. Finally, more involvement in international meetings and research consortia would help with recruiting postdocs and international students. The future plans should include ambitions to build greater international reputations, providing access to EU Consortia and grants, EMBO membership and ERC funding, etc.

The project to create a new center for aging and cancer in Nice has lived up to expectations. The institute has grown rapidly by the recruitment of teams from abroad, the nurturing of local talent and careful consolidation of senior teams. The scene is now set to do even better in the years ahead. This will be facilitated by continued mentoring of young teams, increased collaboration between teams with complementary molecular and clinical expertise and more ambitious projects that exploit the impressive range of experimental models and technology platforms. The commitment of the current director to stay for the next contract offers an encouraging sign to ensure that these goals will be achieved.