2015-2020
Strategic Plan

MARIE CURIE 21st CENTURY
MC21
institutCurie

A leading player in the fight against cancer, Institut Curie brings together an internationally-renowned Research Centre and an advanced Hospital Group that provides care for all types of cancer – including the rarest forms. Founded in 1909 by Marie Curie, Institut Curie comprises three sites (Paris, Saint-Cloud and Orsay), where more than 3,300 members of staff are dedicated to achieving three objectives: hospital care; scientific research; and the sharing of knowledge and the preserving of legacy. As a private foundation that is recognised as serving the public interest, Institut Curie is supported by donations and grants. This support is used to fund discoveries that will improve treatments and the quality of life of cancer patients.

Institut Curie's 2015-2020 Strategic Plan was directly inspired by the model invented by Marie Curie in 1909 aimed at bringing researchers and physicians together to find new treatments for cancer patients.

CONTENTS



PRESIDENT'S OFFICE — COMMUNICATION — NOVEMBER 2016 — IMAGE COURTESY OF: FOR INSTITUT CURIE: ERIC BOUVET, URIEL CHANTRAINE, CHRISTOPHE HARGOUES, NICOLAS KRIEF, ALEXANDRE LESCURE, PEDRO LOMBARDI, NOAK/LE BAR FLORÉAL, BENOÎT RAJAU, THIBAUT VOISIN; ACJC, FLORENCE LEVILLAIN; MAQUET SAS, AIA ASSOCIÉS — WRITER: CELINE GIUSTRANTI — TRANSLATION: LEXCELERA — DESIGN AND COMPLETION: ALL CONTENTS — PRINTING: IMPRIMERIE PEAU.

ONCOLOGY IS CURRENTLY UNDERGOING MAJOR CHANGES

With recent therapeutic and diagnostic advances, it is now possible for the majority of patients to overcome cancer. But there is still much work to be done to cure even more patients. It will involve improving treatments, developing and providing access to new therapeutic approaches and reducing side effects, but also initiatives to help patients recover their quality of life after treatment. **The goal of the MC[21] Plan is to make every effort to ensure that a cancer free future is a reality for every patient.**

From its inception, Institut Curie's strength has resided in its ability to bring the benefits of research to the patient's bedside. In the fight against cancer, Institut Curie and its 3,300 staff members prove their commitment daily alongside patients and in the research laboratories of its three facilities in the Ile-de-France region: Paris, Saint-Cloud, Orsay. This tripartite organisation facilitates the pursuit of a highly fruitful policy of openness and academic/hospital partnerships.

The MC[21] project aims to strengthen existing bridges between researchers and clinicians. Implemented in conjunction with patients and Institut Curie's many partners, it comprises a scientific project, focused on interdisciplinary discovery-based research, a medical project, centred on the patient journey and innovation, and a medical-scientific programme. Eleven other projects will be implemented in support of these three key projects to further accelerate the spirit of openness – a priority of the institute – and acquire the organisation needed to **become *a Comprehensive Cancer Centre* at global level**. Our project is based on an ambitious property master plan totalling nearly 150 million euros, which will allow us to renovate, rebuild or develop Institut Curie at each of its three locations.

With this project, Institut Curie aims to raise research and treatment to the highest level so that they interact in the *continuum* envisaged by Marie Curie, which continues to prove its worth today, to the benefit of patients.

PR THIERRY PHILIP
PRESIDENT OF INSTITUT CURIE

3 LOCATIONS, 3 IDENTITIES, 3 UNIVERSITY AFFILIATIONS

Saint-Cloud

Precision medicine and studies of the patient journey

UNIVERSITY PARTNERS

UNIVERSITÉ DE VERSAILLES ST-QUENTIN-EN-YVELINES

université PARIS-SACLAY

HOSPITAL PARTNERS

FOCH

CENTRE HOSPITALIER DES QUATRE VILLES

Paris

Systems biology and global patient care

UNIVERSITY PARTNERS

UNIVERSITÉ PARIS DESCARTES

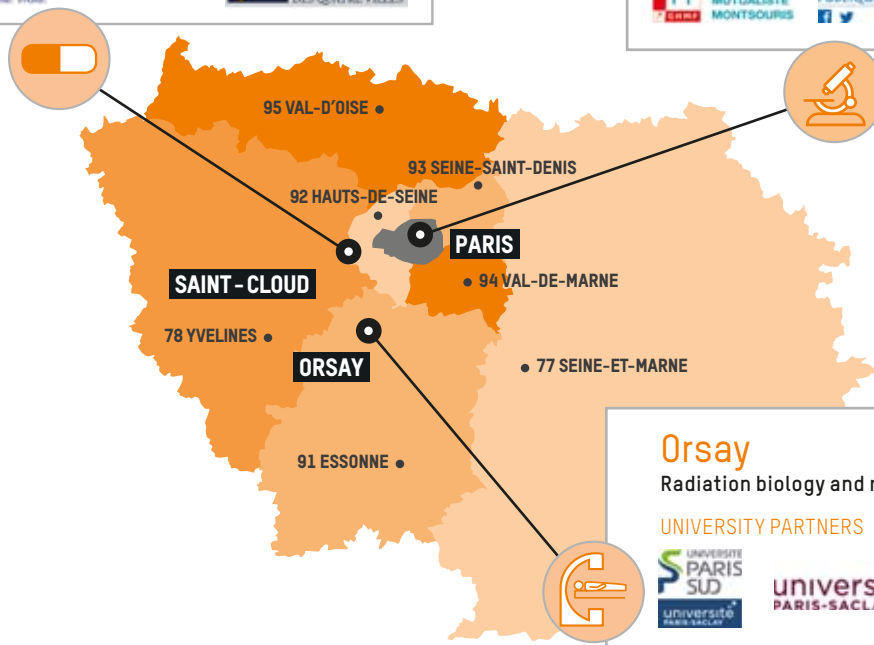
UPMC

PSL RESEARCH UNIVERSITY PARIS

HOSPITAL PARTNERS

L'INSTITUT MUTUALISTE MONTSOURIS

ASSISTANCE PUBLIQUE HÔPITAUX DE PARIS



Orsay

Radiation biology and radiation therapy

UNIVERSITY PARTNERS

UNIVERSITÉ PARIS SUD

université PARIS-SACLAY

RADIOTHERAPY AND PROTON THERAPY CENTRE PARTNERS

cea

GUSTAVE ROUSSY

ASSISTANCE PUBLIQUE HÔPITAUX DE PARIS

OUR INSTITUTIONAL PARTNERS AND SUPERVISORY BODIES

ars

MINISTÈRE DE L'ÉDUCATION NATIONALE, DE L'ENSEIGNEMENT SUPÉRIEUR ET DE LA RECHERCHE

MINISTÈRE DES AFFAIRES SOCIALES ET DE LA SANTÉ

INSTITUT NATIONAL DU CANCER

UNICANCER

Inserm

cnrs

Institut Pasteur

LEON BERARD

01 /

SCIENTIFIC PROJECT

CULTIVATING THE CURIE SPIRIT

"Each research domain focuses on issues at the cutting-edge of scientific knowledge from all angles, and with the added benefit of 'Curie-osity'. This is a collaborative interdisciplinary approach designed to foster the emergence of original discoveries and innovative medical-scientific applications."

GENEVIÈVE ALMOUZNI, PhD, DIRECTOR OF THE RESEARCH CENTRE

COMBINING EXCELLENCE AND INTERDISCIPLINARITY

DOMAIN 1

RADIATION BIOLOGY AND CHEMISTRY, CELL SIGNALLING AND CANCER

- Better understand the mechanisms behind the development of cancer
- Develop innovative methods of radiation therapy

DOMAIN 2

DEVELOPMENT, CANCER, GENETICS AND EPIGENETICS

- Better understand gene regulation and control of genome integrity during development in normal and pathological contexts
- Emphasise the role of genetics and epigenetics in the diagnosis and treatment of cancer

4 RESEARCH DOMAINS

intended to develop basic and translational research aimed at finding the solutions expected by patients, their family, and society as a whole.

DOMAIN 3

INTEGRATIVE TUMOUR BIOLOGY, IMMUNOLOGY AND ENVIRONMENT

- Decipher tumour mechanisms through genetic, immunological and bioinformatics tools
- Accelerate immunotherapy developments

DOMAIN 4

MULTISCALE PHYSICS-BIOLOGY-CHEMISTRY AND CANCER

- Develop a multiscale approach, from molecule to the organism, reflecting spatial and temporal dimensions
- Develop therapeutic strategies by pooling chemistry-, physics- and biology-related approaches

CROSS-CUTTING ACTIVITIES

Technological Platforms	Advanced Training	Translational Research ↔	Research at the Hospital Group

ACCELERATING THE TRANSITION FROM BASIC RESEARCH TO CLINICAL APPLICATIONS

Like a catalyst, translational research brings doctors and researchers together to accelerate transitioning from basic research discoveries to clinical applications. It extends well beyond the eponymous department through the development of a common culture, language and expertise.

Our commitments

- Promote **original cooperation** in all laboratories in a spirit of openness to our outside partners
- Develop a **common culture** between doctors and researchers

ATTRACTING AND DEVELOPING TALENT

These talented young people will be the leading researchers of the future who will continue the fight against cancer. Ensuring the emergence of this new generation involves training undergraduates, PhD and post-doctoral students, and recruiting and mentoring.

Our commitments

- Offer young team members an internationally competitive **start-up package**
- Welcome **major international researchers**, on sabbatical leave
- Implement **personalised career monitoring** through high-level training programmes and the option of appropriate mentoring

PURSUING TECHNOLOGICAL INNOVATION

Technologies are essential to scientific progress and are constantly evolving. Institut Curie has a duty to be at the forefront of this race and has organised its high-level platforms inside Curie Core Tech.

Our commitments

- Forge new **international partnerships**
- Ensure our platforms' **technological levels**
- Create **new platforms** to meet future challenges

02 /

MEDICAL-SCIENTIFIC PROGRAMME

THE HEART OF THE REACTOR

"The research-care continuum, held dear by Marie Curie and Claudius Regaud, is still the best way to serve the fight against cancer and engage in innovation for the benefit of patients. With the support of the Translational Research Department that acts as a catalyst, this medical-scientific programme aims to ***concentrate our strengths on ten research priorities to bring medical innovations to concrete fruition."***

GENEVIÈVE ALMOUZNI, PhD
DIRECTOR OF THE RESEARCH CENTRE

MARC ESTÈVE, MD
DIRECTOR OF THE HOSPITAL GROUP

Breast cancer

In this field in which the institute has long-standing expertise, Prof. Martine Piccart, a world-renowned Belgian oncologist, was entrusted with the task of developing an ambitious plan to take research to the next stage, most notably through the launch of:

- **A clinical study on triple-negative breast cancer,** a major challenge of this tumour location, based on discoveries made by the Research Centre;
- A comprehensive **study comparing therapeutic decision support systems** with a view to therapeutic de-escalation.

FOCUS

Institut Curie's Hospital Group was ranked as France's leading hospital for breast cancer (according to *Le Point* magazine's 2016 ranking).

Early trials

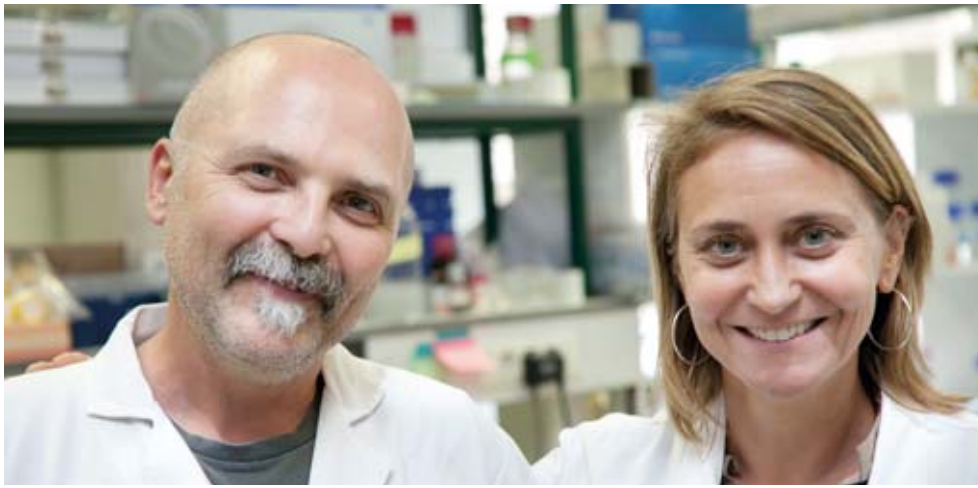
The time has come for precision medicine in oncology. To accelerate its deployment, the institute will:

- Give new impetus to clinical trials. For this purpose, 26 clinical research beds were recently added (6 in Saint-Cloud and 20 in Paris) and 20 additional beds are planned by the years 2020-2021 in Saint-Cloud.
- Restructure the diagnostic and theranostic medicine division to better meet both human and technological needs.

Radiation biology and innovation in radiation therapy

As the birthplace of radiation therapy, Institut Curie intends to give new impetus to this treatment administered to over 50% of patients. Three projects have been identified as priorities:

- Develop **molecules which, together with radiation therapy, will increase its effectiveness;**



- Explore **new radiation therapy modalities**, such as FLASH irradiation, consisting of brief, ultra-high dose rate treatments;
- Develop **radiation therapy techniques for children** to minimise side effects.

Immunotherapy

Institut Curie will open France's first cancer immunotherapy centre, which will mobilise nearly 140 physicians and researchers and accommodate some 20 patients, with one objective:

- Offer as many patients as possible an opportunity to benefit from this therapeutic strategy that is radically altering the face of cancer treatment.

Uveal melanoma

As an internationally recognised expert in treating and researching uveal melanoma, the most common eye cancer in adults, Institut Curie is committed to:

- **Identifying new treatments** by accelerating research on metastatic forms of uveal melanoma.

Paediatric cancer

With its widely recognised reputation in childhood and adolescent cancer treatment and research, Institut Curie is committed to:

- Accelerating progress even further by strengthening the ties between its research teams and its Department of Paediatric, Teenage and Young-Adults through an approch similar to the Cancer Immunotherapy Centre;
- Improving the management of **neuroblastoma** and **rhabdoid tumours**.

Sarcoma

As one of the five leading facilities worldwide in the management of this rare pathology, Institut Curie wishes to step up its activities by:

- Drawing on its expertise to **accelerate basic and translational research**;
- Creating a **dedicated translational research team**.

FOCUS

Bringing these major projects to a positive conclusion depends on our success in acquiring the necessary means by:

- Recruiting **future leaders**;
- **Extending** "protected medical time", allowing clinicians to devote a greater part of their time to research.
- **Developing** physician-scientist career paths.

03 /

MEDICAL PROJECT

SPREAD THE BENEFIT OF CURIE EXPERTISE AS WIDELY AS POSSIBLE

"Patients' needs are changing and Institut Curie is adapting to these changes with a focus on patient-centred care. The institute is thus pursuing its quest for innovation at all the stages of disease, through research and professional training. And to ensure that everyone has the same chance, it is pursuing its policy of regional partnerships with other leading-edge hospitals."

MARC ESTÈVE,
DIRECTOR OF THE HOSPITAL GROUP

Our commitments

to patient-oriented innovation

- Perform 70% of surgical procedures on an outpatient basis in **ophthalmology and senology**
- Offer **breast reconstructio**n on a routine basis without excess to be paid by the patient
- Transfer expertise on **choroidal melanoma** to regional institutions
- Enable earlier diagnosis in **ophthalmology**
- Strengthen ties with Hôpital Foch in Suresnes (Hauts-de-Seine, France) in **haematology**
- Establish an innovative care pathway for **digestive cancers** with Assistance Publique - Hôpitaux de Paris (AP-HP)
- Create a specific treatment location for **sarcomas**
- Make our expertise in **Otolaryngology-Head and Neck Surgery** and reconstruction more accessible
- Offer all available surgical treatments for **gynaecological** cancers
- Organise coordinated treatment **in respiratory medicine** with Institut mutualiste Montsouris in Paris (France)
- Give **children, adolescents and young adults** access to new molecules

MOVING FROM TARGETED CARE TO INTEGRATED CARE

Each patient has his or her own history. The Hospital Group must treat patients as a whole, including all other aspects of their health and their personal, family, social and professional lives.

Our commitments

to providing treatment specifically adapted to each patient

- Personalise **integrated care pathways**, to optimise the physical and mental well-being of patients
- Create a patient relations department, providing **better information and communication**
- Provide more effective **symptomatic treatments**
- Standardise **pain assessment**
- Develop new **therapeutic education programmes**
- Establish a **palliative care structure** integrated with cancer care
- Expand **hypnosis consultations**
- Better coordinate continuing care after discharge
- Assist with **return to work**
- Continue appropriate workshops on physical activity and nutrition education

PROVIDING EARLIER DIAGNOSIS, BETTER CARE AND STRONGER SUPPORT

Quality care management starts with a proper diagnosis, completed within a brief time period and under optimal conditions. **In this regard, Institut Curie's objectives are to:**

- Make genetics consultations available in local hospitals for high-risk patients;
- Guarantee a time limit of three business days for the initial consultation, leading to a first treatment within a fortnight, irrespective of the speciality;
- Give priority to new patients.

STAYING AT THE FOREFRONT OF INNOVATION

Offering patients the best care entails developing state-of-the-art technologies. **In this respect, Institut Curie undertakes to:**

- Continue to innovate in radiation therapy;
- Deploy an interventional radiology technical platform;
- Include 30% of patients in clinical trials;
- Develop genomic medicine;
- Provide access to genetic and molecular oncology testing for all patients in the Ile-de-France region.

04 /

CULTIVATING OPENNESS TO ACCELERATE INNOVATION

STRENGTHENING PARTNERSHIPS AND OPENNESS

INSTITUTIONAL PARTNERSHIPS

Institut Curie is part of a rich environment in which it has developed numerous ties with universities, hospitals and institutions to increase its sphere of influence, pool its resources and expertise, and strengthen its strategic position. Institut Curie is a member of Unicancer and of the Organisation of European Cancer Institutes (OECI). In this respect, Institut Curie intends to:

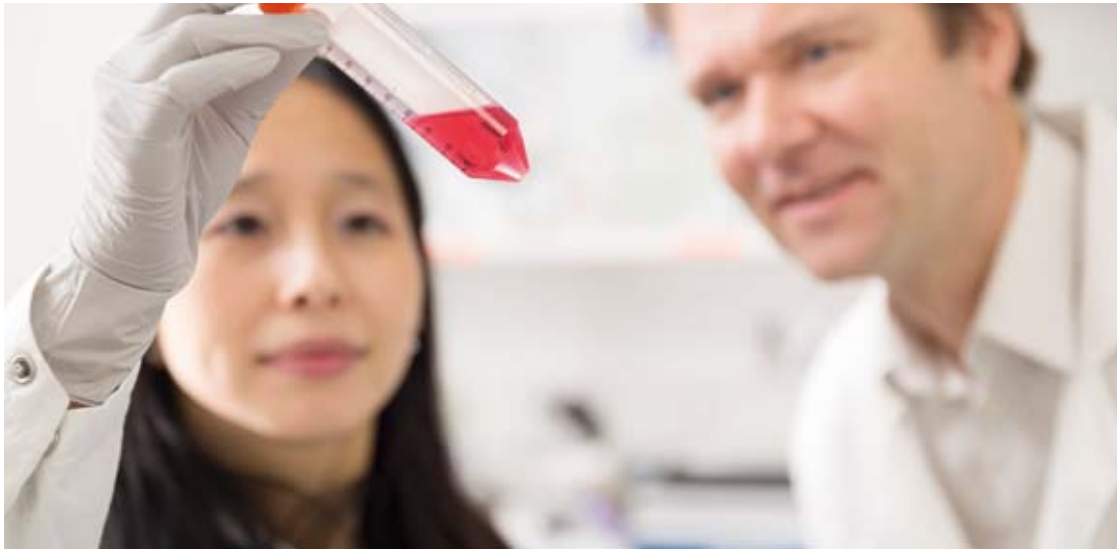
- Strengthen its ties with Assistance Publique - Hôpitaux de Paris (AP-HP), Hôpital Foch, Institut Mutualiste Montsouris and other institutions **to create clinical excellence pathways;**
- **Continue developing partnerships** for its Research Centre with Institut Pasteur, Centre Léon-Bérard in Lyon (France), the EU-Life network (an alliance of 13 European research centres in life sciences), the National Centre for Biological Sciences (NCBS) in Bangalore, India among others, to attract still more European and collaborative funding and disseminate its discoveries.

OPENNESS TO THE WORLD

With the objective of sharing Institut Curie's expertise as widely as possible, the Institut undertakes to:

- Welcome more foreign patients;
- Create a **Franco-Chinese school** of oncology;
- Serve as advisor for the construction of hospitals abroad (Changsha and Shenzhen in China);
- Develop training, clinical research and information **to improve treatment for children with cancer in African countries;**
- Disseminate know-how and expertise through training and international courses;
- **Attract the best** thanks to the "HR (Human Resources) Excellence in Research" label.

79
NATIONALITIES



EDUCATION
TRAINING AN ELITE GROUP OF ONCOLOGY EXPERTS

Training is an integral part of the institute's three founding social missions. And because we are building the future today, Institut Curie is already anticipating tomorrow's needs by:

- Training and mentoring future leaders in the field of oncology: doctors, researchers and physician-scientists to meet tomorrow's challenges;
- Recruiting promising young researchers to foster emulation and anticipate future developments.

INDUSTRIAL DEVELOPMENT AND PARTNERSHIPS
DEVELOPING OPEN INNOVATION

The renewal of the Carnot Label for the 2016-2021 period attests to Institut Curie's talent for forging ambitious partnerships with industry, and to advance even further along this line, the institute aims to:

- Support the creation of start-ups to implement the most promising discoveries;
- Increase the number of partnerships with businesses to develop discoveries and innovations.

"Institut Curie offers me a rare opportunity to participate in research and industrial development in a hospital setting. Furthermore, Institut Curie's international and interdisciplinary dimensions offer me real potential for personal development."

SOFIA CELI SVIRIDIUK,
A BELARUSIAN PhD STUDENT
AT THE HOSPITAL

52
BUSINESS PARTNERS

16
START-UPS CREATED SINCE 2003

05 /

ORGANISING FOR 21ST CENTURY ONCOLOGY

ANTICIPATING THE FUTURE

The success of such an ambitious project as MC²¹ depends on adequate organisation and the anticipation of digital advances, as well as generalised support through the development of human capital.

IN THE DIGITAL AGE

Today, digital technologies are redefining the broad outlines of patient care, public health and research, providing better access to information, new ways of relating to patients and more efficient ways of communicating.

Our commitments

- **Empower patients to participate in their care management,** by developing a portal (mycurie.fr) for exchanges between the hospital and patients and between the hospital and referring physicians
- Provide **support for transformation of the Hospital Group and Research Centre** (clinical inclusion support tools, electronic laboratory notebooks, etc.)
- Promote **sharing of information** between doctors and researchers
- **Securely store and process** the constantly increasing volume of data

BIG DATA, A NEW SOURCE OF INNOVATION

Digital data are playing an increasingly prominent role in life sciences and health research. Data quantity and complexity are exploding, as is the information drawn from their analysis. To make research more innovative, with a faster return to the clinic, and to improve the speed and accuracy of doctors' decisions, Institut Curie intends to create:

- A **data department** with the objective of compiling and exploiting all clinical and laboratory data;
- Enrich, structure and develop **the wealth of clinical and laboratory data**.

€153.6 million
TOTAL INVESTMENTS

MANAGEMENT PROJECT
AN AMBITIOUS BUT REALISTIC PROJECT

To implement its project, Institut Curie will invest €153.6 million, including €145.4 million for the property project. The management project aims to demonstrate Institut Curie's ability to fund the investment programme.

"A significant effort has been focused on breaking down investment costs and additional operating costs among the Foundation's three entities. This separation by entity is fundamental to achieving budgetary and financial equilibrium, not only at the institute level, but also in each of its three entities, while respecting the rules for allocating proceeds from public donations to the Foundation's social missions."

JACQUES GILAIN,
DIRECTOR OF SUPPORT FUNCTIONS

FOSTERING SOCIAL INNOVATION

By focusing on human capital, Institut Curie will be able to make a difference in the future. In a scientific and health environment undergoing profound change to meet new scientific, medical, and technological challenges, and in the current uncertain international and economic context, Institut Curie has a duty to:

- Maintain **appropriately skilled staff**;
- Motivate all professionals by setting up a variety of **recognition programmes**;
- Mobilise and unite staff to develop **collective intelligence**;
- Create a **careers observatory** to identify emerging jobs, among other things;
- Identify and **provide support for high-potential staff**;
- Obtain the **HR excellence in Research label** based on the 40 general principles of the European Charter for Researchers.

BECOMING THE COMPREHENSIVE CANCER CENTRE OF THE 21ST CENTURY

Objectives such as welcoming patients under optimal conditions, facilitating joint work by doctors and researchers and implementing scientific and medical projects and a medical-scientific programme are not attainable without modern facilities and appropriate architecture, which must foreshadow future developments in oncology.

At all three locations, priority will be given to patient wellbeing with, as a guiding principle, comfort, a pleasant and reassuring environment, "connected" rooms and space for accompanying persons.

PARIS LOCATION: THE LEAD FACILITY JOINS THE 21ST CENTURY

- Creation of a Cancer Immunotherapy Centre which will bring together nearly 140 doctors and researchers in one location
- Grouping together of research teams and staff of the Department of Paediatrics, Adolescents and Young Adults to accelerate progress even further
- Implementation of innovative organisational arrangements to meet the new challenges of oncology (expansion of outpatient care, city-hospital connections, etc.)
- Renovation of research laboratories so as to strengthen ties between the main areas of expertise

10
OPERATING THEATRE ROOMS, MAKING THE FACILITY ONE OF THE REFERENCE IN FRANCE DESIGNED ON AN "INTEGRATED" MODEL

900
RESEARCHERS AND PHYSICIAN-SCIENTISTS

ORSAY LOCATION: A WORLD-CLASS FACILITY FOR RADIATION BIOLOGY AND RADIATION THERAPY

- Inauguration of an experimental proton therapy line for research activities.
- Installation of radiation therapy equipment for research and clinical purposes
- Opening of an experimental radiation biology platform

10,000
PROTON THERAPY SESSIONS
AND
8,000
PATIENTS TREATED

200
RESEARCHERS
AND PHYSICIAN-SCIENTISTS

SAINT-CLOUD LOCATION: A CENTRE OF ATTRACTION FOR PRECISION MEDICINE AND STUDIES OF THE PATIENT JOURNEY

136
BEDS AND ACCOMMODATION

- Reorganisation of the patient journey and care management procedures
- Harmonisation of treatment and research activities with an ultimate goal of 200 onsite researchers
- Development of a major centre for precision medicine and clinical research
- Opening of a diagnostic medical centre

BUILDING THE FUTURE
WITH YOU

Institut Curie has always relied on the public's generosity. It was the Osiris bequest that led to the creation of the Institut du Radium, which became Institut Curie.
This heritage continues today. The public's generosity provides support for each high point in the institute's life, as well as for a number of innovations and research projects. Certain research projects and innovations would not have been possible, or only much later, without the generosity of our donors. These resources allow Institut Curie to engage in innovative projects, which although risky, bring a large measure of hope.
It is through the generosity of our donors, sponsors and associations that Institut Curie is able to undertake large projects, and particularly this institutional project today.

THANK YOU TO THE

190,000

DONORS, LEGATORS AND SPONSORS,
WITHOUT WHICH THIS INSTITUTIONAL PROJECT WOULD NOT BE POSSIBLE

KEY DATES FOR INSTITUT CURIE

1903
The Nobel Prize for Physics awarded to Pierre and Marie Curie and Henri Becquerel for their discovery of natural radioactivity.

1909
Founding of the Institut du Radium by the University of Paris and Institut Pasteur.

1911
Marie Curie awarded the Nobel Prize for Chemistry for her work on radioactivity. She is the only woman to have been awarded the Nobel Prize twice.

1920
Creation of the Curie Foundation.

1935
Nobel Prize in Chemistry awarded to Irène and Frédéric Joliot-Curie for inventing artificial radioactivity.

1965
Installation of the first research teams at the Orsay facility.

1970
Merger of the Institut du Radium and the Curie Foundation.

1977
Opening of the Paediatrics Department.

1990
Inauguration of the Maison des Parents (Families' House).

1993
Opening of the Translational Research Laboratory.

1994
Inauguration of the Curie Museum, dedicated to the production and dissemination of knowledge.
As far as possible, the museum's collections and archives will be assembled in historic buildings as part of 2015-2020 plan.

1995
Opening of the Cellular Biology Centre.

2003
Creation of a research unit in bioinformatics.

2005
Creation of an Interdisciplinary Department of Supportive Care.

2008
Opening of the Developmental Biology and Cancer department.

2010
Merger of Institut Curie with the Centre René Huguenin (Saint-Cloud, Hauts-de-Seine, France), thus strengthening the Research-Care continuum and expanding capabilities in clinical research and therapeutic innovation.

2010
The Proton Therapy Centre reopens following its complete renovation.

2015
Launch of the MC^{21} institutional project.

2017
Opening of the Cancer Immunotherapy Centre for cancer, the first of its kind in France, which will bring together some 140 doctors and researchers in one location.

150th anniversary of the birth of Marie Curie.

A private charitable foundation since 1921

institutCurie

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Les défis pour Curie

Institut Curie