



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 Nobel laureate Marie Curie, Institut Curie comprises three sites (Paris, Saint-Cloud and Orsay), where more than 3,400 members of staff are dedicated to achieving three objectives: hospital care; scientific research; and the sharing of knowledge and the preserving of legacy.



Since 2011, Institut Curie is certified "Institut Carnot Curie Cancer". The Carnot label is a label of excellence granted to academic research structures with proven high quality and involvement in partnership research. Curie Cancer offers industrial partners the opportunity to set up research collaborations, benefiting from the expertise of the Institut Curie teams, for the development of innovative therapeutic solutions against cancers from the therapeutic target to clinical validation.

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# DATA SCIENCE & PRECISION MEDICINE



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# ACCELERATE TECHNOLOGICAL INNOVATION AND MARKET ACCESS THROUGH PARTNERSHIPS

Institut Curie Technology Transfer and Industrial Partnership Office is the quickest gateway to the state-of-the-art innovations happening at Institut Curie.

Our key mission is to connect innovators with the business & investor communities and to offer a single access point for creating R&D partnerships with Curie experts and technology licensing.

Our ambition is to ensure that your project receive the greatest chance of actually reaching patients.

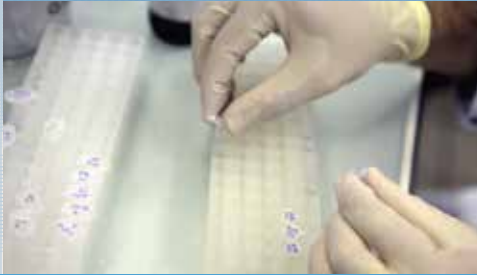
Institut Curie MC<sup>21</sup> strategic plan has identified innovation around Data Science and Precision Medicine as a major axis of medical-scientific research. The work carried out between Institut Curie and industrial partners in this area benefits from a unique fundamental, translational research, clinical and data ecosystem and state-of-the-art teams.

Let's work together and take advantage of our recognized expertise labelled Carnot Curie Cancer!

**AMAURY MARTIN, PHD**

DIRECTOR, TECHNOLOGY TRANSFER & INDUSTRIAL  
PARTNERSHIPS OFFICE, INSTITUT CURIE  
DIRECTOR, INSTITUT CARNOT CURIE CANCER





## KEY FIGURES TECH TRANSFER OFFICE 2018 DATA

- 70** NEW R&D AGREEMENTS
- 6 M€** INCOME IN R&D CONTRACTS
- 568** PATENTS PORTFOLIO
- 50%** OF PATENT LICENSED
- 20** SPIN-OFF COMPANIES



## KEY FIGURES DATA SCIENCE & PRECISION MEDICINE 2018 DATA

- 10** NEW R&D AGREEMENTS
- 10** PARTNERSHIPS ON COHORTS AND BIO-BANKING STUDIES
- 5** JOINT DEVELOPMENTS WITH START-UPS

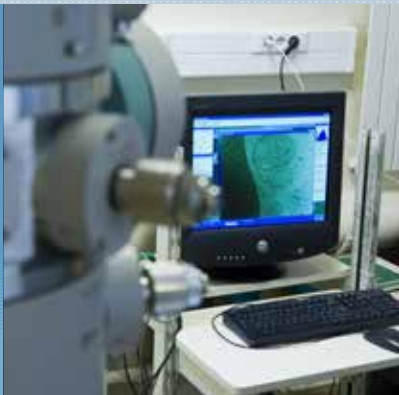


## AN OFFER SIZED TO YOUR NEEDS

- An offer tailored to your company size.
- A guaranteed confidentiality for your data and project.
- Different level of partnership depending on your needs:
  - Consulting and expertise
  - Proof of concept or feasibility
  - R&D collaboration
  - Pre-market validation
  - Joint R&D lab
- An access to high level of national and international experts network.



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# DATA DRIVEN PARTNERSHIPS

## JOINT DEVELOPMENTS IN DATA SCIENCE AND PRECISION MEDICINE



Our data offering at Institut Curie features both clinical and data science capabilities enabling us to work with our partners to get new insights.

- Understanding your need and context
- Generating evidence of effectiveness for the intended use and value
- Defining the outcome and how the technology will contribute to it
- Being always fair, transparent and accountable about data use

A unique combination of **research, clinical records** and **historical data collections**):

- Over 500,000 medical records
- +65 Terabytes radiology images
- Structured registries (e.g. breast cancer, ophthalmology)
- 1 Petabase genomic data (+35 Terabases of genomic sequenced in 2019)

## PARTNERSHIPS AND BIOMEDICAL DATA SCIENCE



We are working closely with pharmaceutical, medical devices, new technologies of information and communication companies using computer processing, cloud storage and artificial intelligence to accelerate discovery, diagnostic techniques and innovation notably applied to:

- Drug and biomarker discovery
- Support decision-making
- Epidemiology and Health economy
- Developing new tools to insure that data are Findable, Accessible, Interoperable and Reusable
- Data science & AI including a software portfolio developed in-house



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# PRECISION MEDICINE PARTNERSHIPS

## OPPORTUNITIES IN THE FIELD OF PRECISION MEDICINE



An ecosystem of capabilities and internal platforms ranging from data acquisition to analysis, enabling studies including but not limited to:

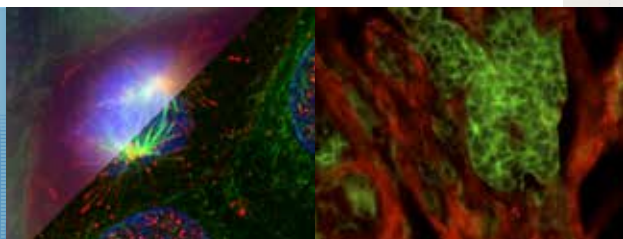
- Experimental pathology
- Genomic and high throughput sequencing
- Single cell, immuno-phenotyping
- Biostatistics and bio-informatics



## BIO-RESOURCES: DEVELOPMENT, VALIDATION AND INTEGRATION



- Biobank with more than 12M pathology blocks (35,000 samples / year)
- Screening, molecular diagnosis and biomarker
- Methods, assays or devices
- Development of informatics tools



### Areas of interest with Precision medicine trials

- Retrospective or prospective ancillary studies
- Biomarker and target discovery
- Decision support Instrument development

### Examples of Precision medicine and Biobanking studies sponsored by Institut Curie

- SHIVA01 & SHIVA02 (Molecularly targeted therapy based on tumour molecular profiling)
- RAIDs (Cervical cancer)
- SCANDARE (Immunotherapy)
- ALCINA (Circulating biomarkers)

### Molecular Tumor Board (MTB)

Collaborating with Institut Curie molecular tumor in order to assess druggable molecular alterations for a better patient's orientation. Institut Curie is fostering clinical trial recruitment in close collaboration with industrial partners.



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## PARTNERING WITH INSTITUT CURIE

Institut Curie conducts projects from basic research to clinical studies in order to:

- Understand mechanisms of pathological development
- Facilitate the transition from basic research to clinical application
- Develop innovative therapeutic and diagnostic techniques in cancer

### RESEARCH CENTER



4 domains of excellence:

- Biology, Cancer, Genetics and Epigenetics
- Biology & Chemistry of Radiations, Cell Signaling and Cancer
- Integrative Tumour Biology, Immunology and Environment
- Multiscale Physics-Biology-Chemistry and cancer

### TRANSLATIONAL RESEARCH DEPARTMENT



This department provides clinicians and researchers with human and technological resources enabling the development of application-oriented projects.

### HOSPITAL GROUP



Three sites in Paris region area welcome patients bearing cancers from the most frequent to the rarest, to offer them state-of-the-art treatments and improve their quality of life.

Institut Curie is an international expert for eye cancers, pediatric tumors, breast cancers and sarcomas.



### PLATFORMS

Institut Curie provides a wide range of advanced technological platforms. Their services cover biological complexity from small molecules up to whole organisms and contribute to the progress of basic and translational research projects up to clinical studies.