

## World Inventor's Day

# At Institut Curie, from the laboratory inventor to the success story of a start-up

For World Inventor's Day on November 9, Institut Curie celebrates the innovating and entrepreneurial spirit of its employees. Through its Technology Transfer Office, Institut Curie offers tailored support to its researchers, physicians and health professionals to harness all of their potential to foster innovation in health. With an array of state-of-the-art tools at its disposal.

Two researcher-inventors from Institut Curie, Dr. Stéphanie Descroix, an expert in microfluidics and Dr. Céline Vallot, a specialist in single-cell technology, are evidence of this.

It is also an opportunity to discover the results of an exclusive study conducted by ViaVoice for Institut Curie on French people's perceptions of innovation in health and in the fight against cancer.

### Innovation in health: results of the ViaVoice study for Institut Curie

A survey conducted by ViaVoice among a sample of 1,000 individuals representative of the French population, aged 18 and over, in October 2023.

- **3 in 4 French people believe that France is at the forefront of the fight against cancer**, compared with 25% who believe the opposite (particularly young people - 33%).
- They are very **optimistic about the future benefits of research and innovation** in France in the fight against cancer, but **half of them believe that the research and innovation budget for the fight against cancer is insufficient**.
- **Increased funding for research is the first solution** to boost innovation in the fight against cancer, according to 7 out of 10 French people.

*Full survey available on request*

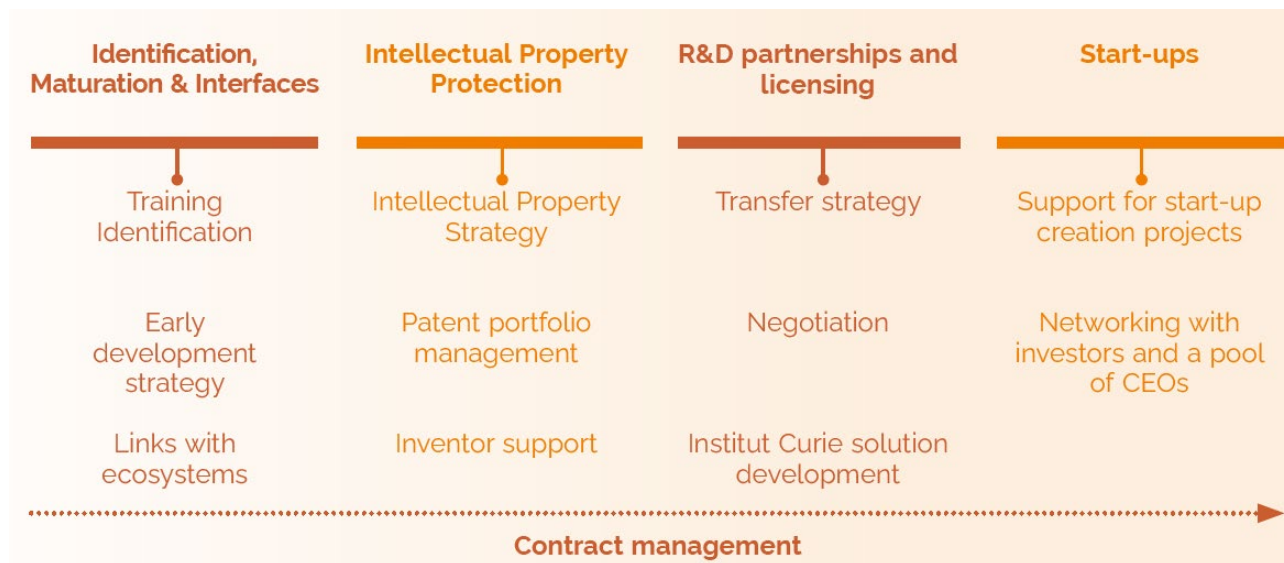


*“Basic research is a true melting pot for innovation, and is vital for accelerating development and the process of getting these new cutting-edge technologies to market and giving patients access to them, one of the biggest public health challenges for the next 30 years,”* announces **Dr. Cécile Campagne, director of the Technology Transfer Office at Institut Curie and deputy director of Carnot Curie Cancer.**

## Tailored support, from the birth of the innovation to its use

Although academic research is the source of the scientific results that will undeniably impact society, we have to be able to identify them and to provide the means to develop them. *“Our strength at Institut Curie lies in a significant investment in the earliest phases of the technology transfer, namely the detection and maturation of inventions, in parallel with increased actions to foster awareness and training of employees,”* explains Dr. Cécile Campagne.

**The challenge of the TTO? To harness the innovation potential of researchers, physicians and health professionals and support them in the maturation of their projects in order to obtain a license or collaboration with a manufacturer, or even the creation of their own start-up through a integrated incubation program.**



This strategy to promote innovation enabled Institut Curie to achieve a portfolio of 990 patents, over 500 collaboration contracts signed since 2011, and the creation of 31 start-ups since 2002.

## Counting on quality for high-impact projects

Institut Curie's unique innovation policy lies in its selectivity and its desire to breathe life into its projects with high socio-economic impact. *“After analysis and cross-checking with the market, only technologies that demonstrate a possibility of being exploited and/or offering a solution to an identified need will be kept”*, explains **Dr. Jérémie Weber, deputy director of the Technology Transfer Office at Institut Curie and manager of the Industrial Partnerships and Licenses division and the Start-up division.** *“The same applies for start-ups. Our goal is to create as many companies as possible but to create productive ones, with the ability to develop a technology to create a future service or product,”* he continues.



*“The idea is not to beat all fund-raising records in absolute terms, but to see what this fund-raising can help us achieve: creating jobs and providing new solutions to improve care and quality of life for patients. We are proud of the more than 350 jobs created and the 10 clinical trials in progress, and it is this impact that is very satisfying”*, adds Dr. Cécile Campagne.

## A tech transfer technology based on originality

In parallel with the increased professionalization of its team, the TTO is deploying a “test and learn” strategy to progress further and faster in innovation. *“We very soon understood that placing our employees at the core of our actions and deliberations would be decisive”*, announces Dr. Cécile Campagne.

Within this framework, an **Internal Tech Transfer Ambassadors network, including Institut Curie employees, was created in 2021 to more quickly detect inventions** in laboratories. A Tech Transfer Committee, a structure placing researchers and physicians at the heart of efforts to build the medical-scientific strategy for technology transfer at Institut Curie, was also put in place in 2017. An effective way to communicate the needs of inventors. This year an advisory committee of international specialists will provide expertise and challenge Institut Curie's transfer strategy. *“We are also thinking about the possible opening of an incubator, inspired by our peers abroad”*, adds Cécile Campagne.

**In order to be more reactive against the competition and help develop start-ups more quickly, at the end of 2023 Institut Curie will also be launching a pre-creation incubation fund based on philanthropy: it will be called Startinnov by Institut Curie.** This is a way to more quickly raise funds for certain company creation projects, for example providing industrial proofs of concept before the company has even been created. Sponsors and companies interested in the projects of Institut Curie's teams will be able to contribute as part of this dedicated charitable fund. Valuable time will be saved on a market that is often very competitive.

### INNOVATION AT INSTITUT CURIE: KEY FIGURES

Over **140 million** euros in income generated by partnership research (excluding clinical trials) since 2011, including a record amount of **14 million** in 2022

A portfolio of **990** patents (2023)

**31** start-ups created since 2002

Over **800 million** euros in total raised by start-ups (2023)

Over **375** jobs created via start-ups (2022)

Over **500** collaboration agreements signed since 2011, including **115** in 2022

At Institut Curie, the importance of exploiting research and technology transfer is manifested by a dedicated team of 20 professionals in the Technology Transfer Office (TTO), who advise and support the inventors from the Research Center and the Hospital Group.

## Glossary

### EXPLOITATION OR TECHNOLOGY TRANSFER?

Exploitation is a generic term that refers to transferring knowledge and technologies for the benefit of wider society. Examples of exploitation might include publishing research, or discussions during scientific conventions and congresses. Technology transfer is the economic and societal exploitation of the results and the research work. This involves legally transferring rights, materials, know-how and more to another party, so that the latter might use and commercialize new scientific research-based inventions.

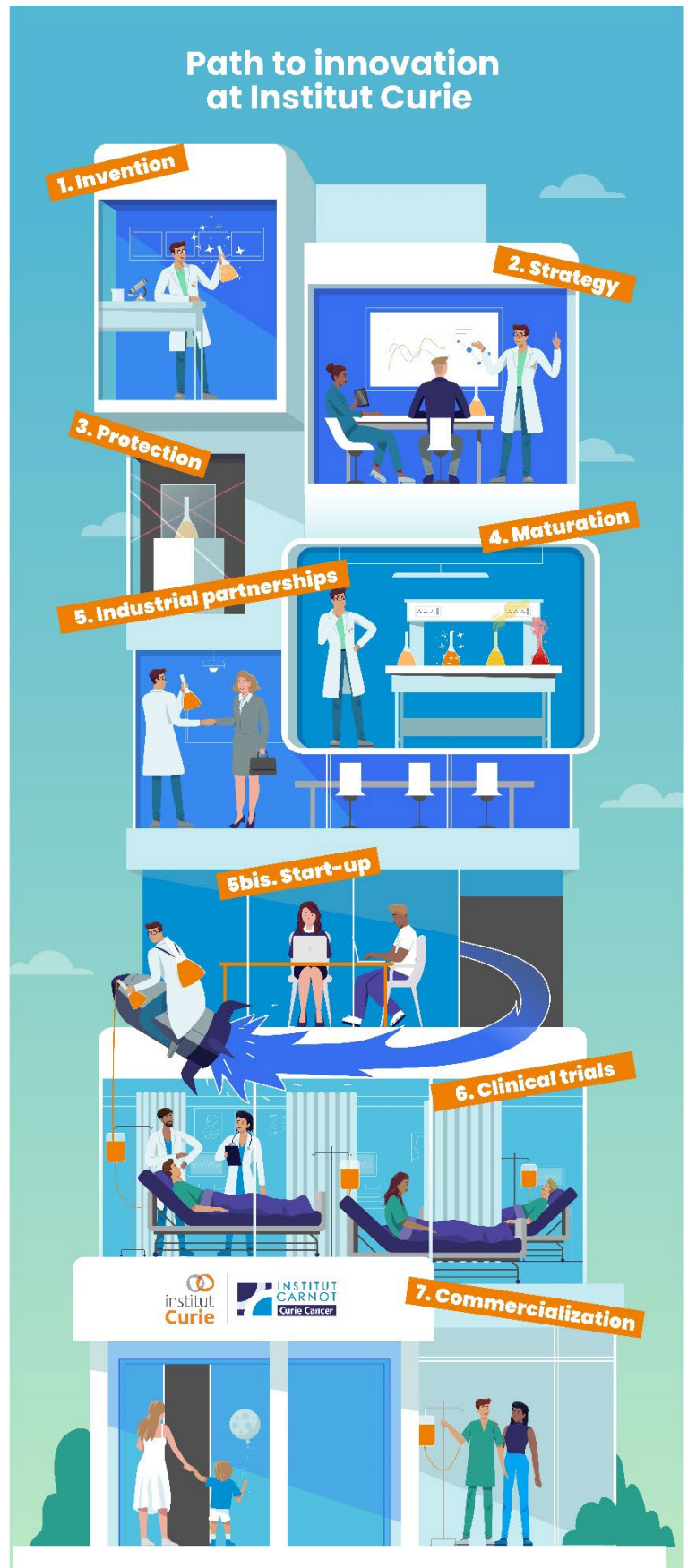
### DISCOVERY OR INVENTION?

A discovery refers to describing that which already exists. Discoveries extend human knowledge. An invention is the fruit of research that solves a problem using technical means, and can be exploited commercially. Inventions extend human abilities.

### THE INVENTION DISCLOSURE

Inventors formally declare their inventions by filing confidential invention disclosure forms. Your invention disclosure form contains a detailed description of your invention, all sources of support and funding, the information needed to start the protection and commercialization process, and any past or upcoming publications and presentations.

Discover the path to innovation at Institut Curie by exploring an [interactive illustration](#) that retraces each step in the journey of an inventor:



## Profile of Dr. Stéphanie Descroix, microfluidics specialist



### Dr. Stéphanie Descroix

- CNRS Research Director at Institut Curie
- Head of the Macromolecules and Microsystems in Biology and Medicine team in (UMR168 CNRS/Sorbonne University/Institut Curie).
- Scientific Co-founder of the start-up Inorevia created in 2016, a MedTech company that exploits a microfluidics technology to miniaturize and automate sample preparation protocols.
- Her long-standing work: multi-patented tumors-on-chips.
- Chair of Institut Curie's Tech Transfer Committee

The worlds of research and entrepreneurship are sometimes only a step apart. A transition that seemed entirely natural to Dr. Stéphanie Descroix. She is specialized in microfluidics. A new generation of micro-technologies used to carry out complex biochemical analyses in low volumes, more easily reproducible and less costly, or develop organ models *in vitro*. *"It is a field that straddles science and technology. Our students know that start-ups are a possible avenue of opportunity for them."*

Along with her team, Dr. Stéphanie Descroix conducts various activities around microfluidics, particularly in the field of bio-engineering with the development of organ models on chips, and in particular tumors on chips. Thanks to the TTO it has completed the first steps towards exploitation of its research. *"We were very comfortable with the idea of filing patents and doing research in parallel."* But filing patents just for the sake of it makes no sense. The TTO challenged us and asked why it was inventive. Why us? *"How do we do it? How can we be mature and really good?"* explains Dr. Descroix.

Surrounded by Institut Curie's teams, it was necessary to determine the utility of these patents: creating a license for a manufacturer rather than creating a start-up? For part of her work, the choice was made to create a company, Inorevia. Once on the path to entrepreneurship, the team then looked at the application that would serve to highlight the entire potential of the technology. *"Using Institut Curie's internal innovation maturation program, which provides flexible funding to strengthen patents, we supplied a decisive proof of concept through complementary work."*

With a clientele and partnerships forged throughout the world, the start-up Inorevia is now speeding up its commercial expansion.

Dr. Descroix is now scientific advisor at Inorevia. She also shares her expertise in her role as Chair of the Tech Transfer Committee, which aims to create strong ties between the community of researchers and health professionals and

the TTO. *"By reporting the problems encountered in the field and sharing our strategies, this complementarity between care and research, ingrained in Institut Curie's DNA, becomes all the more relevant"*, concludes Dr. Stéphanie Descroix.

## Profile of Dr. Céline Vallot, expert in Single-cell technology

**One Biosciences was born from a good idea and a meeting. Dr. Céline Vallot's good idea was to leverage her expertise in single-cell technology to try to treat complex diseases. The meeting took place with the start-up's future CEO, Magali Richard. "We had been talking for a long time and I was finally convinced. Then we went to discuss it with the Start-up team in the TTO, and they were very receptive and were able to include it in my professional plan", she smiles.**

One Biosciences was created with Institut Curie providing personalized support. The choice of by-laws, the protection and management of the transfer, and the drafting of collaboration agreements... These are some thorny issues that are resolved through permanent monitoring.

*"Institut Curie was able to answer all my questions and complete this enormous task of facilitation. If there is a problem I know that they are there to help", confides Dr. Céline Vallot.*

Created in collaboration with the French venture builder Home Biosciences, the start-up received a first funding package in the amount of 7 million euros, including 2 from BPI France, when it was launched in July 2020.

*"This funding has been extremely positive for us. Since our technology is very applied, it enabled us to forge collaboration projects which would otherwise not have been created. A solid protocol in the long term is very powerful and it saves time", she explains.*

This is crucial support for overcoming the main obstacle to this ambitious project, namely the workload. "We don't realize this but it can be very tricky to make sure that nothing is forgotten and that everything goes smoothly. *"We don't have the same availability for everyone as we did before, but we are making do with it."* As in a laboratory, we have to be able to distinguish an idea that works from an idea that doesn't work. *"But in the laboratory, incubation time is longer. In a company, we know that we have to make the right decisions straight away."*

Now that the first phase in the life of the start-up is over, the company will expand and continue to raise money. In this project Dr. Céline Vallot plans to stabilize her investment as a scientific adviser. She is also continuing, four times a year, to discuss by-laws and progress with the other members of the Start-up Club, a space for exchange between entrepreneurs set up by Institut Curie.



**Dr. Céline Vallot**

- CNRS Research Director at Institut Curie
- Head of the "Dynamics of Epigenetic Alterations in Cancer" team (Institut Curie/CNRS/Sorbonne University)
- Scientific Co-founder of the start-up One Biosciences created in 2020, a Biotech company that uses single-cell analysis approaches to treat complex diseases
- 2022 CNRS Innovation Award winner

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## About Institut Curie

Institut Curie, France's leading cancer center, combines an internationally-renowned research center with a cutting-edge hospital group, treating all types of cancer, including the rarest. Founded in 1909 by Marie Curie, Institut Curie employs 3,700 researchers, physicians, and health professionals across three sites (Paris, Saint-Cloud, and Orsay), all of whom contribute to its three missions of treatment, teaching, and research. A foundation with public utility status, Institut Curie is authorized to accept donations and bequests, and thanks to the support of its donors, is able to accelerate discoveries and improve patient treatment and quality of life.

Find out more at: [www.curie.fr](http://www.curie.fr) [Twitter](#), [Facebook](#), [LinkedIn](#), [Instagram](#)



Since 2011, **Institut Curie has been certified "Carnot Curie Cancer"**.

The Carnot certification is a recognition of excellence awarded to academic research organizations whose quality and involvement in partnership-based research have been demonstrated.

Curie Cancer offers industrial partners the opportunity to implement research collaborations utilizing the expertise of Institut Curie's research teams to develop innovative therapeutic solutions for cancer, from therapeutic target to clinical approval. Curie Cancer is a member of the Carnot FINDMED network, a group of thirteen Carnot institutes, to facilitate access to their technological platforms and to their innovations for very small and medium-sized companies in the pharmaceutical industry. Find out more: <http://www.instituts-carnot.eu/fr/institut-carnot/curie-cancer> - <https://findmed.fr>