

PRESS RELEASE

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GOLD SEPTEMBER: TWO NEW RESEARCH PROGRAMMES LAUNCHED TO TACKLE CHILDHOOD CANCERS

Two of Gustave Roussy's four new medical and scientific programmes are dedicated to childhood cancers. The first, **DECRIPT**, aims to improve understanding of the role played by genetics in the development of certain childhood cancers, as well as second cancers that may occur in adulthood. The second, **INSPIRE**, will draw on the knowledge and techniques already developed at the Institute to create organoids, with the aim of deciphering the mechanisms underlying metastasis and resistance to treatment.

Gustave Roussy is a leading centre in the treatment and study of childhood cancers. In 1952, Dr Odile Schweisguth established Europe's first paediatric oncology department at the Institute. Nearly 80 years later, the vision and commitment of this pioneer in paediatric oncology continue to shape the Department of Child and Adolescent Oncology that she founded, as well as its affiliated research teams.

Since the Gold September campaign was launched in France in 2016, collective mobilisation and the funds raised have accelerated the development of new research projects. The objective is to cure the 20% of young patients for whom current treatments remain insufficient by improving our understanding of certain diseases and developing new therapeutic approaches. As the campaign marks its tenth anniversary, childhood cancers, which account for 2,300 new cases in France every year, are once again at the heart of major initiatives at Gustave Roussy.

In January 2026, Gustave Roussy brought together more than 71 researchers from four teams dedicated to childhood cancers within a single joint research unit, headed by Dr Thomas Mercher, a specialist in childhood leukaemia. Its objective is to encourage medical and scientific exchanges and collaborations to discover new molecular mechanisms that can support the development of new therapies. At the same time, two of Gustave Roussy's four new medical and scientific programmes, known as PMS programmes, are dedicated to childhood cancers. These research programmes form part of the Institute's strategic plan. Their purpose is to deliver tangible improvements in the care, cure and follow-up of patients with cancer by creating a direct bridge between fundamental and exploratory laboratory research and clinical treatments delivered in hospital.

DECRIPT: improving understanding of the role played by genetics

Led by Dr Brice Fresneau and Dr Léa Guérini-Rousseau, both paediatric oncologists, **DECRIPT** focuses on understanding the genetic factors involved in cancers affecting children and adolescents, as well as the risk of developing a second cancer in adulthood. It combines clinical and fundamental research, with a focus on epidemiological and genetic data. Its central objective is to improve prevention and follow-up and, ultimately, to deliver more personalised care for patients at greatest risk.

"The increase in childhood cancer cure rates is excellent news. However, this new reality also means that a growing number of former patients are at risk of developing late complications,

including a second cancer in adulthood. This risk may be influenced by the treatments received during childhood, but also by several genetic factors,” says Dr Brice Fresneau.

DESCRIPT therefore aims to gain a better understanding of why some children develop cancer and why some former patients face a higher risk of developing a second cancer. Its main objective is to identify new genetic predisposition factors, whether associated with a single gene or with a combination of several genetic variations. The programme will focus on rare or still poorly understood variants, as well as interactions between genetic predispositions and cancer treatments.

The programme is based on a large-scale approach made possible by the resources developed at Gustave Roussy over several decades of clinical and fundamental research. Pooling these genetic and clinical data is essential to detecting rare abnormalities, analysing combinations of variants and improving our understanding of their links with the development of a first or second cancer.

“DESCRIPT follows a translational approach, with the ambition of transforming research findings into useful tools for patients and healthcare professionals. The data generated by the programme should enable us to develop risk models that incorporate genetic factors, demographic data, treatments received and clinical characteristics,” explains Dr Léa Guérini-Rousseau.

Ultimately, these tools could help adapt treatments, personalise follow-up arrangements and offer targeted prevention strategies to patients facing the greatest risks. The programme will also include health economics studies to assess the value of these approaches within the organisation of care.

INSPIRE: deciphering metastasis and treatment resistance

The INSPIRE programme, jointly led by paediatric oncologist Dr Claudia Pasqualini and research director Professor Florent Ginhoux, aims to improve understanding of why certain childhood cancers continue to resist treatment and lead to the development of metastases. Despite rising cure rates, some forms of childhood cancer remain difficult to treat. In these situations, relapses and metastases account for most deaths, reflecting mechanisms of treatment resistance that are still poorly understood.

“Recent research has highlighted the central role played in these processes by the tumour microenvironment, meaning all the cells surrounding the tumour. In childhood cancers, this environment can hinder the immune system and reduce the effectiveness of treatments. Macrophages are among the cells that play a key role in these mechanisms. Normally involved in the body’s defence, they can be hijacked by the tumour and contribute to blocking the immune response, promoting treatment resistance and facilitating the spread of cancer cells, which ultimately leads to the formation of metastases,” explains Professor Florent Ginhoux.

INSPIRE aims to characterise interactions between tumour cells and their immune environment extremely precisely, particularly interactions involving macrophages. The objective is to determine how these interactions change over time and according to the organs concerned, and to understand their role in the mechanisms through which tumours spread.

To achieve these objectives, the programme will draw on the development of new-generation experimental models known as organoids, which act as personalised avatars of each patient’s tumour. Their development builds on expertise already established at Gustave Roussy, particularly within Professor Florent Ginhoux’s team, which has shown that immune cells can be incorporated into these models to reproduce the tumour microenvironment as closely as possible. INSPIRE will therefore not examine the tumour in isolation. The organoids will be enriched with immune system cells, particularly macrophages, to reproduce interactions that occur within the human body.

Finally, the programme will develop multi-organ systems in which several organoids representing different organs to which the disease can spread will be brought into interaction. These systems

will make it possible to model the processes through which tumours spread throughout the body by reproducing exchanges between organs and the conditions that enable metastases to become established. The objective is to identify the mechanisms involved.

“Beyond its ambition to improve understanding of fundamental mechanisms, INSPIRE follows a translational approach aimed at turning this knowledge into clinical advances. The models developed as part of the programme will provide a particularly suitable framework for testing new therapeutic approaches under conditions that closely reflect patients’ actual disease. They will make it possible to assess the impact of strategies designed to modulate the tumour microenvironment or specifically target the tumour-promoting functions of macrophages,” concludes Dr Claudia Pasqualini.

About Gustave Roussy

Ranked first in France, first in Europe and sixth in the world, Gustave Roussy is a centre of global expertise entirely dedicated to patients living with cancer. The Institute is a founding pillar of the Paris-Saclay Cancer Cluster. Source of therapeutic innovations and diagnostic breakthroughs, the Institute welcomes more than 54,000 patients each year, including 2,760 children and adolescents, and develops an integrated approach combining research, care and teaching. An expert in rare cancers and complex tumours, Gustave Roussy treats all cancers at all stages of life. It offers its patients personalised care that combines innovation and humanity, taking into account both care and the physical, psychological and social quality of life. With 4,000 employees at two sites, Villejuif and Chevilly-Larue, Gustave Roussy brings together the expertise essential for high-level cancer research; 40.5% of treated patients are included in clinical studies. To find out more about Gustave Roussy and follow the Institute’s news: www.gustaveroussy.fr/en , [X](#), [Facebook](#), [LinkedIn](#), [Instagram](#) et [Bluesky](#).

PRESS CONTACTS

GUSTAVE ROUSSY :

Claire Parisel and Léona Pinto – presse@gustaveroussy.fr - Tél. +33 1 42 11 50 59 – +33 1 42 11 63 59 – +33 6 17 66 00 26