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# 60 YEARS OF COMMITMENT TO CANCER RESEARCH

« Today, more than ever, our mission is based on a strong desire to support cutting-edge research projects and to promote scientific synergies, both geographic and thematic. »

## Prof. Pierre-Marie Glauser

President

**The year 2024 marked the 60th anniversary of the ISREC Foundation. A milestone that highlights six decades of support to cancer research, scientific collaboration and innovation. Since its establishment in 1964, our Foundation has been involved in the major advances in oncology and has helped position Swiss research as a key player on the international stage** (page 4).

Today, more than ever, our mission is based on a strong desire to support cutting-edge research projects and to promote scientific synergies, both geographic and thematic. Above all, our translational approach focusses on building bridges between basic research and the clinic, to accelerate the translation of discoveries into concrete benefits for patients (pages 22 to 35).

**Strengthening scientific collaborations**

Our approach to scientific collaboration is based on fostering dialogue between different areas of expertise and stimulating collective momentum for joint projects. In 2024, our **TANDEM** program, which promotes collaborations between basic researchers and clinicians, has become increasingly successful, demonstrating the enthusiasm of the scientific community for collaborative and applied research (page 22). A total of 4.2 million Swiss francs was granted to 9 new TANDEM projects in 2024.

The ISREC Foundation also continues to collaborate with leading academic institutions, consolidating its links with the CHUV, UNIL, EPFL, HUG and UNIGE. The AGORA Research Center, which we have made available to these institutions, is the embodiment of this vision of synergy: the building, in which nearly 300 researchers work on a daily basis to advance science, has become the heart of oncology research in the Lake of Geneva region.

**Supporting young scientists and clinical researchers**

We strongly believe that tomorrow's research depends on training today's talents, which is why we have stepped up our support for the next generation of scientists. In addition to the three professorships it supports, the ISREC Foundation has decided to extend its commitment to the training of future clinical researchers. We have therefore joined the new national MD-PhD Fellowships Program initiated by the Swiss Academy of Medical Sciences (SAMS). This program offers physicians with a passion for basic and translational research the opportunity to pursue a PhD in biomedical sciences while maintaining their clinical connections. On page 16, an interview with Dr. Benita Wolf illustrates the key role clinicians play in research.

**Promoting collaborations between donor institutions**

The ISREC Foundation is actively involved in the promotion of collaboration and synergies between philanthropic institutions that support cancer research. In addition to funding numerous projects in partnership with other foundations active in the oncology field, we seek to establish and facilitate exchanges between a large number of foundations. We believe that, like the scientists working together in our building, this donors' Agora will make it possible to improve the impact of philanthropic funding in oncology and to better target research needs in this field.

**An ambitious future thanks to you**

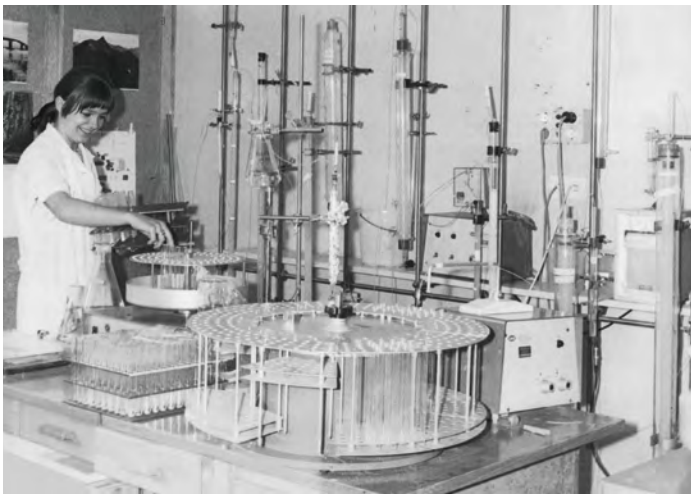
Over the past sixty years, the ISREC Foundation has constantly evolved by adapting to scientific advances and to the challenges of the medical world. Yet one thing has never changed: its determination to promote research that saves lives.

None of this would be possible without the support of our generous donors, our partners and the academic institutions that place their trust in us. It is thanks to you that we can continue to fund outstanding projects and to strengthen translational research with the sole aim of improving the care of cancer patients.

Let us continue this mission with the same determination that has been the driving force behind the ISREC Foundation and all of its teams these past sixty years.

THE ISREC FOUNDATION
INVOLVED IN THE FIGHT
AGAINST CANCER
SINCE 1964

# Sixty years of ingenuity, science and commitment to the fight against cancer

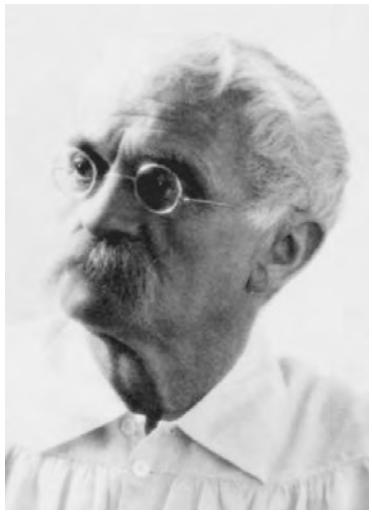


**Founded in 1964, the ISREC Foundation, a world-class institute and later a discerning funder of cutting-edge cancer research, has pursued and renewed a bold vision born in Lausanne a century ago.**

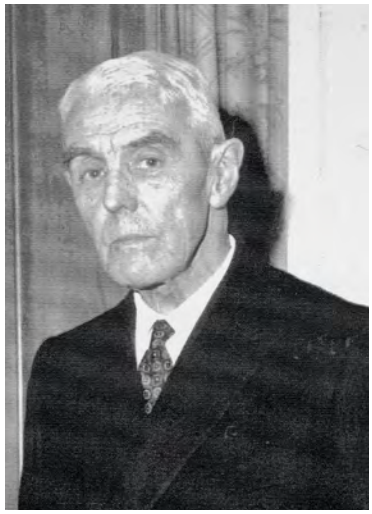
Consequently in 2024, ISREC celebrated two important milestones: 60 years of existence as a foundation and a century of commitment to mastery over cancer through research.

Established on June 18, 1964, thanks to the initiative of its president **Rodolphe Stadler** and its director and co-founder Professor **Henri Isliker**, the ISREC Foundation was created to pursue a vision set out four decades earlier by a group of physicians that included Prof. Alfred Rosselet and Prof. Albert de Coulon. They created the Centre Anticancéreux Romand (CACR) in Lausanne with the encouragement of Dr. **César Roux**, founder of the Hôpital Cantonal Vaudois (forerunner of the CHUV). The team was convinced that in order to understand and efficiently fight the various forms of this disease, largely uncharted waters at the time, it was necessary to pool the skills of specialists from many disciplines. In hindsight, the relevance of this concept is striking, as it echoes through the AGORA. Since 2018, the AGORA building, which is dedicated to translational cancer research, has embodied the excellence that results from uniting the talents of six institutions located in the Lake of Geneva area.

At the beginning of the 1960s, new insights fueled the desire for a Swiss center of excellence in the fight against cancer. Beginning in 1957, the CACR relinquished its therapeutic function to focus on research, and shortly thereafter Rodolphe Stadler and Henri Isliker were joined by a number of prominent individuals who helped give the structure a broader, more solid footing. All Swiss universities and even the Federal Council joined the initiative. At the helm, and providing invaluable support to the scientists, was an eminent lawyer and politician from the Canton



Dr. César Roux
Founding father
of the Hôpital Cantonal
Vaudois (forerunner
of the CHUV)



Rodolphe Stadler
President of ISREC's
first Foundation Council
1964 — 1972

Prof. Henri Isliker
Director
1964 — 1978

of Vaud, Pierre Freymond – who sadly passed away a few years later of a heart attack. Fifty years later, his daughter Catherine Labouchère was appointed President of the ISREC Foundation. While exploring the institution's archives, she was surprised and deeply moved by the discovery of the key role her father had played in the establishment of the ISREC.

**World-class scientific momentum**

The Swiss Institute for Experimental Cancer Research (ISREC), headed by Prof. Henri Isliker, began operations in 1964, in a brand-new building on the Avenue du Bugnon, just above the historic seat of the Hôpital Cantonal Vaudois, employing close to fifty people. In the following years, it grew considerably and moved to Epalinges, a few kilometers north. Over the next four decades, a significant body of work and discoveries was achieved in the fields of mutagenesis, genomic repair, immunology, immunotherapy, cell cycle regulation, cell biology, viruses in oncology, oncogenes, cellular differentiation and bioinformatics.

Once again, this prolific activity with global impact was the result of complementary forces joining together. At the beginning of the 1970s, the European branch of the Ludwig Institute for Cancer Research (LICR) was opened in Lausanne. The American foundation behind this research network is one of the world's most influential in the field. After the WHO and the University of lausanne's Institute of Biochemistry where also attracted to this growing cluster, several hundred scientists worked at the Epalinges site.

Henri Isliker retired after 18 years of loyal service, and **Bernhard Hirt** took over at the helm of the Institute in 1978 for a similar number of years, during which the ISREC continued its productive activities and achieved international renown. **Michel Aguet** succeeded Bernhard Hirt in 1996, and the emphasis on translational research became stronger. So much so that five years later, in 2001, the Swiss National Science Foundation named the ISREC «Leading House» of the National Centres of Competence in Research (NCCR) in the field of molecular oncology. This project also supported by ISREC's partner institutes, the Ludwig Institute for Cancer Research and the Institute of Biochemistry, building new bridges between basic and clinical research. «What we accomplished was cutting-edge», recalls Susan Gasser, current Director of the ISREC

Prof. Bernhard Hirt
Director
1978 — 1996

Prof. Georges Muller
President of the Foundation Council
1994 — 2005

Prof. Michel Aguet
Director
1996 — 2007

Foundation, and a scientist at the Institute in Epalinges during those years. «We were full of enthusiasm and laying the foundation for the remarkable acceleration in the understanding of cancer that we have been witnessing ever since.»

**From institute to faculty**

The beginning of the third millennium was also marked by the appointment of Patrick Aebischer to the presidency of the EPFL. This physician and specialist in neurosciences was then director of the autonomous Surgical Research Division and the Gene Therapy Center at the CHUV. He knew Michel Aguet well. «In those days, the human genome was being sequenced; it was the time when life sciences and bioinformatics began closing ranks,» recalls Patrick Aebischer. «We were convinced that the EPFL needed to seize this opportunity. The institution had engineering, but not life sciences.» For his part, Michel Aguet was seeking to reinforce the academic and financial basis of his research programs. The two men hence came up with the idea of creating an alliance between the ISREC and the EPFL that would form the core of the EPFL's new School of Life Sciences. It took a few more years for this step to become a reality.

The renowned American oncologist **Douglas Hanahan** then took over as the new director of the isrec@EPFL team, which by then had settled into its new environment – today, Prof. Hanahan is director emeritus, continuing his research in the labs of the Ludwig Institute at AGORA. While the ISREC scientists were being integrated into the EPFL, the idea of a research center that would bring together cutting-edge research and active oncologists began to take shape. In 2005, Yves Paternot, a well-known entrepreneur (former head of Adia Interim) and philanthropist, took over the presidency of the ISREC Foundation from the lawyer **Georges Muller**. Under his impetus, and with the help of various personalities such as **Francis-Luc Perret**, EPFL vice-president of human resources, construction and finances, the construction of an infrastructure to be shared by scientists and clinicians began to take shape near the University Hospital (CHUV).

The scientific team at the Swiss Institute for Experimental Cancer Research (ISREC) in 1985

Yves Paternot
Member of the Council
from 2002 onward
President of the Foundation Council
2005 — 2016

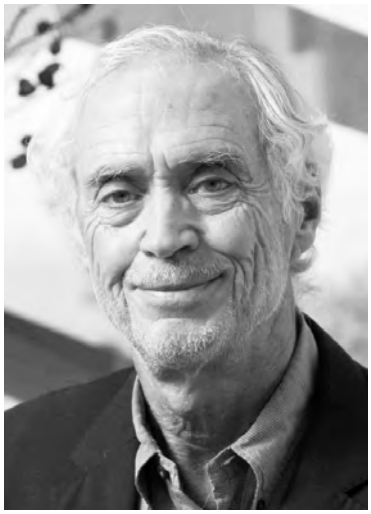
Prof. Francis-Luc Perret
Director
2013 — 2020

**A hive of knowledge and research**

At the same time, the Canton of Vaud authorities decided to make cancer research a priority. The University of Lausanne, the CHUV and the LICR jointly called on Prof. **George Coukos** to head the CHUV's Department of Oncology and the Lausanne branch of the LICR. Thus, Prof. Coukos, a Greek-born specialist in cellular immunotherapy research, arrived from Philadelphia to complete the team. «Our goal of bringing research and therapeutic applications as close together as possible has been surpassed,» says Douglas Hanahan. «With the addition of the University of Geneva and the Geneva University Hospitals (HUG), the Lausanne project has become a Lake of Geneva area project. We have managed to create an ecosystem that attracts the most talented people in the field.»

Sadly, **Yves Paternot** was not to see the fruit of his labor: he died in February 2016, two years before the dedication of the AGORA building that embodies the original ISREC vision in a spectacular and elegant way. The Foundation, led by its former President, **Catherine Labouchère**, committed the substantial sum of 80 million Swiss francs to this groundbreaking development. Today, AGORA is an extraordinary hive of activity in which close to 300 scientists and clinicians, physicians, biologists, geneticists, immunologists, bioinformaticians and bioengineers work together to uncover the little-known workings of tumor cells, striving to harness the immune system to fight cancer and bring the latest innovations to patients.

Prof. George Coukos
Director of the Department of Oncology UNIL-CHUV
Head of the Immuno-Oncology Ward
Director of the Ludwig Institute for Cancer Research Lausanne



Prof. Douglas Hanahan
Director ISREC@EPFL
2009 — 2022

Catherine Labouchère
Member of the Council from 2009 onward
President of the Foundation Council
2016 — 2021

**Missions and priorities**

For 60 years, the ISREC Foundation has focused on its dual mission of supporting translational cancer research and promoting up-and-coming young scientists and clinicians. Additionally, it pursues a day-to-day objective, which is to bring to life the AGORA building, the heart of cancer research, by supporting clinically relevant projects.

With the leadership of lawyer and law professor **Pierre-Marie Glauser** and following the appointment of Prof. **Susan Gasser** as director in 2021, the ISREC Foundation remains committed to rigorously selecting and monitoring projects in collaboration with its Scientific Board of five internationally renowned experts chaired by Prof. Michael Hall of Basel.

Today, the Foundation focuses its philanthropic activities on the following areas:

→ The TANDEM program, launched in 2022, selects around six projects per year, each one receiving over half a million Swiss francs. To be eligible, the projects must combine basic and clinical research.

→ Support for specific professorships. The ISREC Foundation is currently funding three university chairs: Prof. Mikaël Pittet's in immuno-oncology at the University of Geneva – a project that has drawn this multi-award-winning scientist back to the French-speaking part of Switzerland after 15 years in Boston; Prof. Denis Migliorini's in brain tumor immunology, also engaged by the University of Geneva; and Prof. Nicolas Thomä's Paternot Chair in interdisciplinary cancer research, inaugurated in September 2023 at the EPFL. His work in chemical biology is aimed at developing innovative drugs.

→ The sharing and pooling of donations to finance specific projects. Thanks to its structure and its expertise, the ISREC Foundation is able to select and to carefully monitor suitable projects supported by donations from other foundations.

→ Support for young scientists by funding MD-PhD fellowships as part of a national MD-PhD Fellowships Program led by the Swiss Academy of Medical Sciences (SAMS). This program is designed to support

Prof. Susan M. Gasser
Director
from 2021 onward

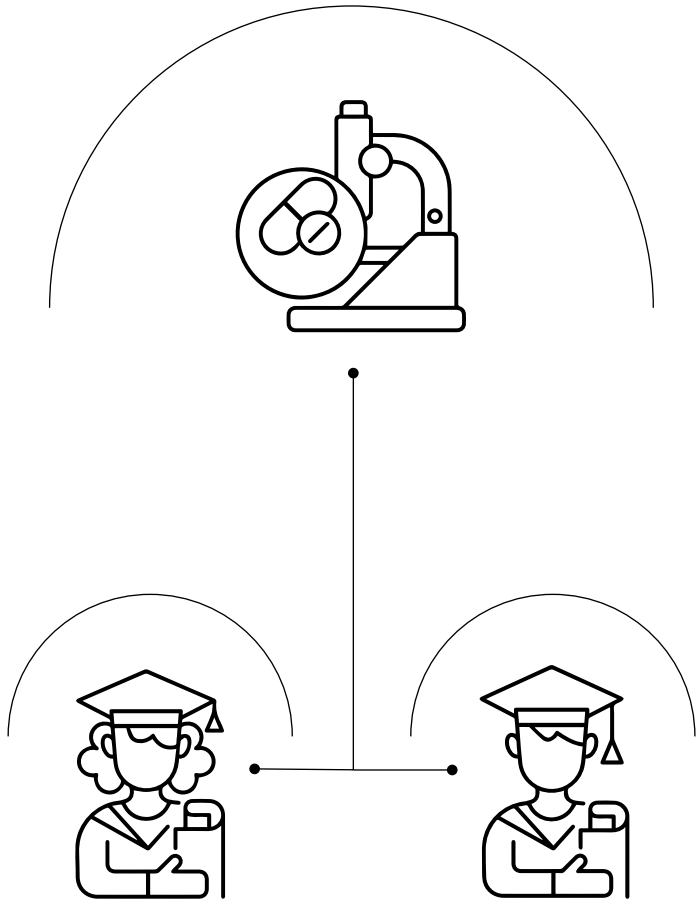
Prof. Pierre-Marie Glauser
Member of the Council
from 2016 onward
President of the Foundation Council
from 2021 onward

physicians interested in basic and translational research, by enabling them to pursue a PhD in biomedical sciences alongside their medical training.

→ Support for other highly innovative and competitive projects.

Prof. Pierre-Marie Glauser is convinced that the ISREC Foundation's federative role will serve as a model for the future: «We have been entrusted with an extraordinary legacy that comes with great responsibility. Our predecessors created the AGORA of scientists. We in turn strive to create the agora of donors, so to speak. Our goals are to pool our resources and to give the translational cancer research community the best chances of finding the most promising projects, to pool the necessary funds and to put these funds to the best possible use. We are convinced that together we are stronger and that this approach is part of a virtuous circle.»

# THE FOUNDATION'S MISSIONS



**Funding Translational Oncology Projects**

The ISREC Foundation identifies, selects, and supports projects that promote knowledge transfer and collaboration between basic research and clinical application. In order to establish novel diagnostic and therapeutic approaches, it is necessary to take a systems approach to understand cells, their interactions with their environment and the immune system, and to be able to counteract the mutations that drive cancer.

**Supporting Young Scientists and Clinicians in Switzerland**

The ISREC Foundation funds MD-PhD fellowships as part of the new national MD-PhD Fellowships Program launched by the Swiss Academy of Medical Sciences (SAMS). This program aims to support physicians interested in basic and translational research, by enabling them to pursue a PhD in biomedical sciences alongside their medical training.

Established on June 18, 1964, the ISREC Foundation is a private non-profit foundation devoted to supporting experimental cancer research. Over the past 60 years, approximately 150 personalities from Switzerland and abroad, including five Nobel Prize winners, have served on the various boards of the ISREC Foundation. The Foundation has financed significant research projects and discoveries, notably in the areas of mutagenesis, genome instability and repair, immunology, immunotherapy, the cell cycle, cell biology, tumor virology, oncogenes, cell differentiation and bioinformatics. For decades, research accomplished by many scientists and supported by the Foundation has contributed to a better understanding of the mechanisms underlying cancer, and to the identification of novel therapeutic targets and techniques.

The ISREC Foundation's efforts today are focused on funding projects that bridge the gap between basic medical research and clinical practice, serving to inform and instruct the development of new therapies for the future.

The aim of translational research is to convert scientific theories and laboratory discoveries into concrete medical applications, in order to improve the quality of medical and pharmaceutical care for patients. However, if translational research is to flourish, considerable resources are required to secure equipment and talent that cannot be systematically financed in the framework of standard budgets. Moreover, clinical studies require lengthy interactions with authorities and patients and present a major hurdle for clinicians.

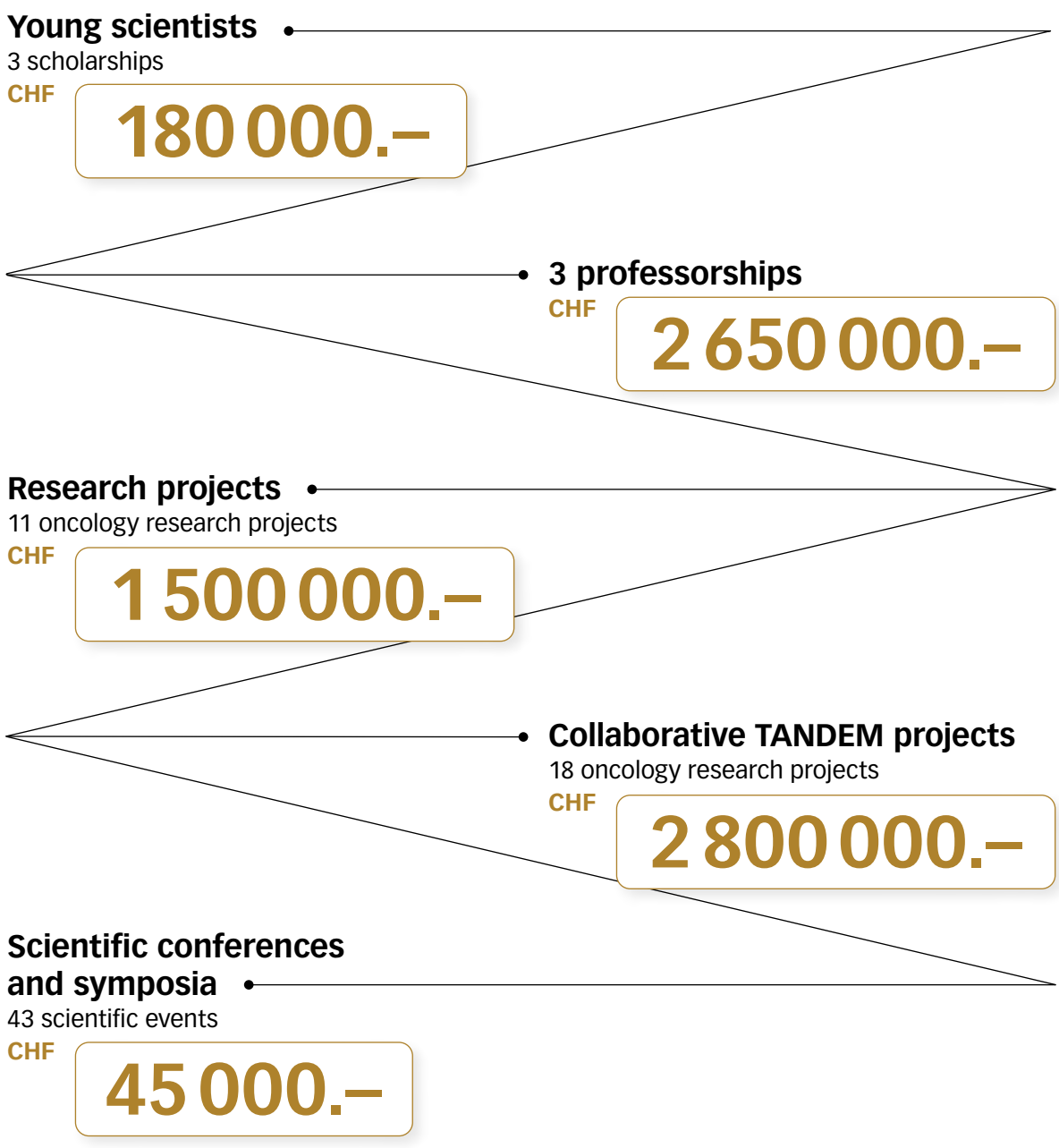
In order to have access to such innovations and to be able to improve patient care, we must eliminate obstacles and promote endeavors at the intersection of many different disciplines.

The ISREC Foundation is proud to be in a position to support efforts that are in line with its two core missions.

## More than 7 million Swiss francs for outstanding research

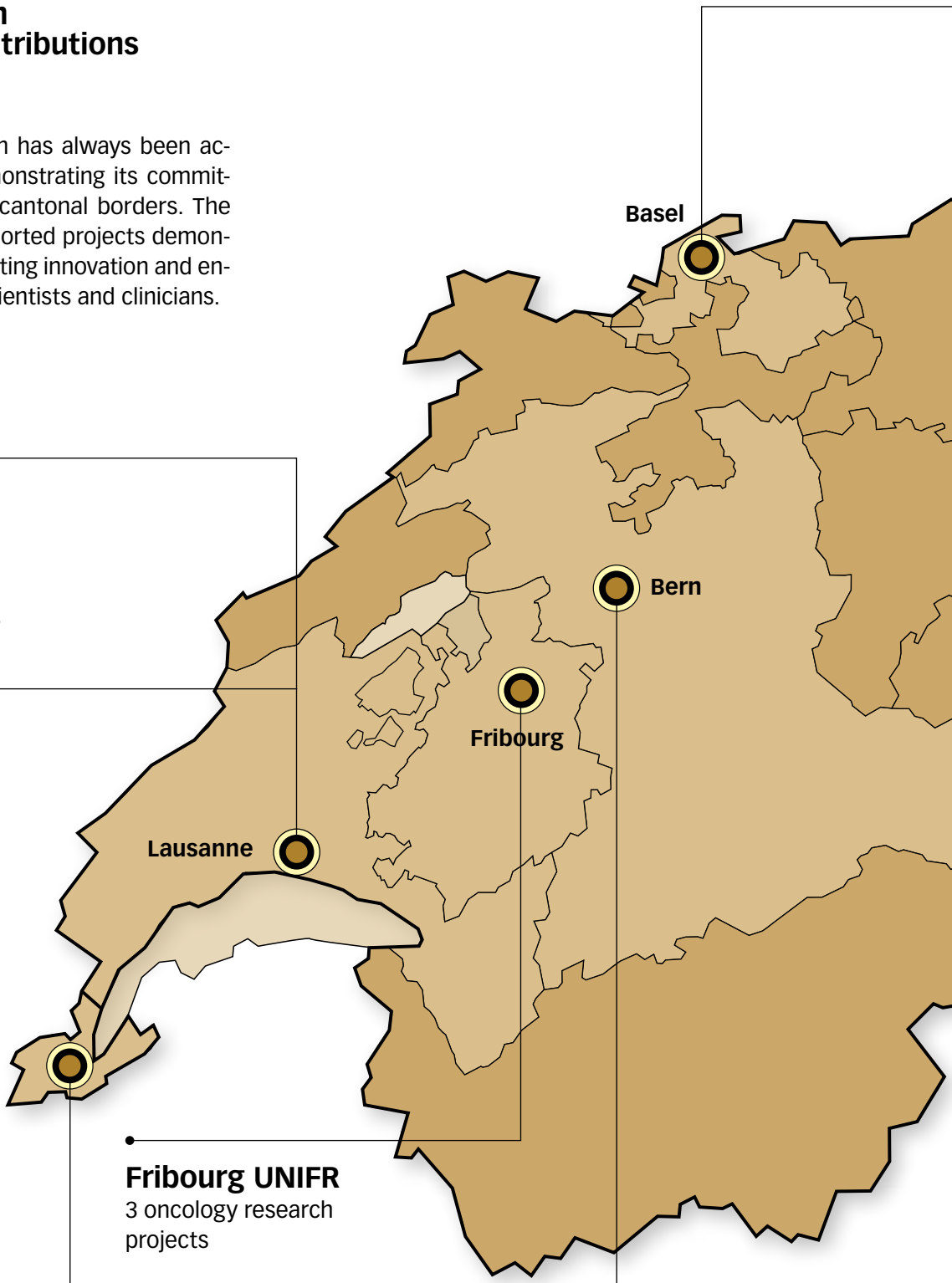
**In 2024**, the Scientific Board of the ISREC Foundation, in close collaboration with our Director Susan Gasser, evaluated **42** cancer research projects, reflecting the vitality and diversity of innovation in this field in Switzerland. This rigorous process resulted in the selection of **17 new projects** to be funded over a period of 1 to 3 years. These included **9 collaborative TANDEM projects**, which are a testament to our commitment to fostering synergies between laboratories and institutions across Switzerland.

Concurrently, more than **7 million CHF** were allocated to **ongoing research projects**, including:



## Geographical breakdown of ISREC Foundation contributions between 2008 and 2024

The ISREC Foundation has always been active throughout the country, demonstrating its commitment to fighting cancer beyond cantonal borders. The geographical diversity of the supported projects demonstrates our commitment to promoting innovation and enhancing collaboration between scientists and clinicians.



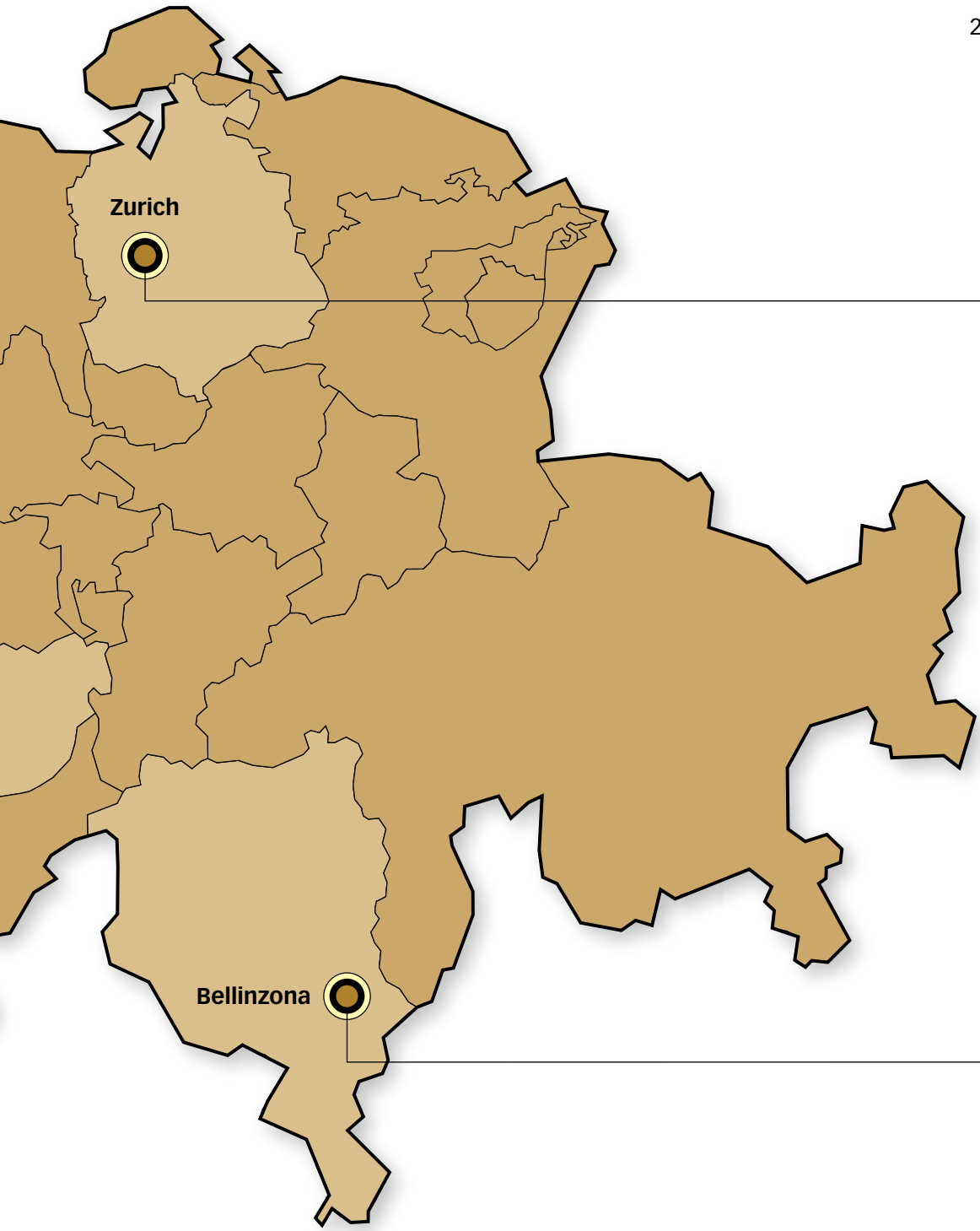

### Lausanne CHUV/UNIL
11 PhD students
31 oncology research projects
1 professorship
11 collaborative TANDEM projects

### Lausanne EPFL
6 PhD students
6 oncology research projects
3 professorships
4 collaborative TANDEM projects

### Fribourg UNIFR
3 oncology research projects

### Geneva UNIGE/HUG
1 PhD student
3 oncology research projects
2 professorships
8 collaborative TANDEM projects

### Bern UNIBE/INSEL
3 oncology research projects
4 collaborative TANDEM projects



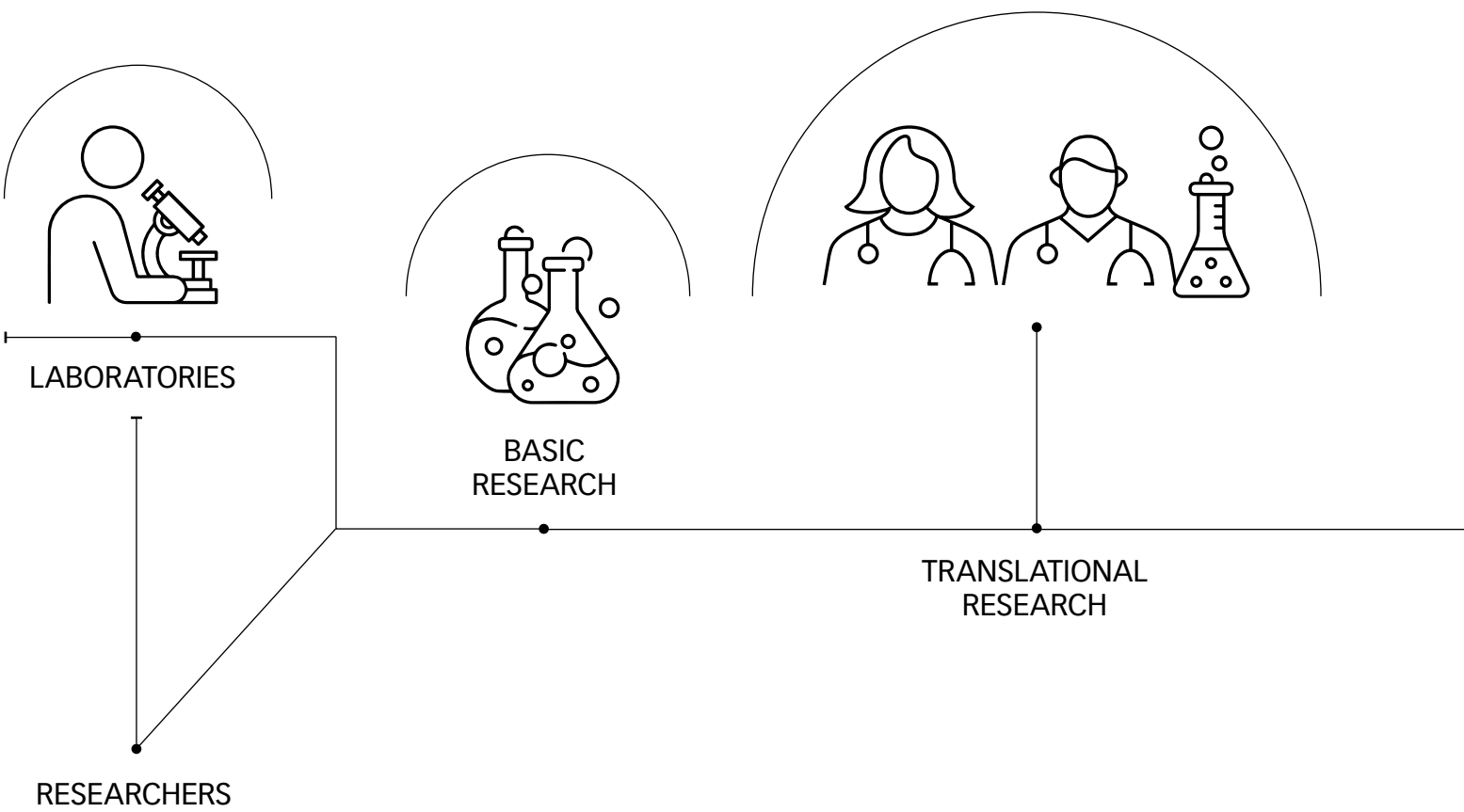

**Basel UNIBAS/USB**
1 oncology research project
2 collaborative TANDEM projects

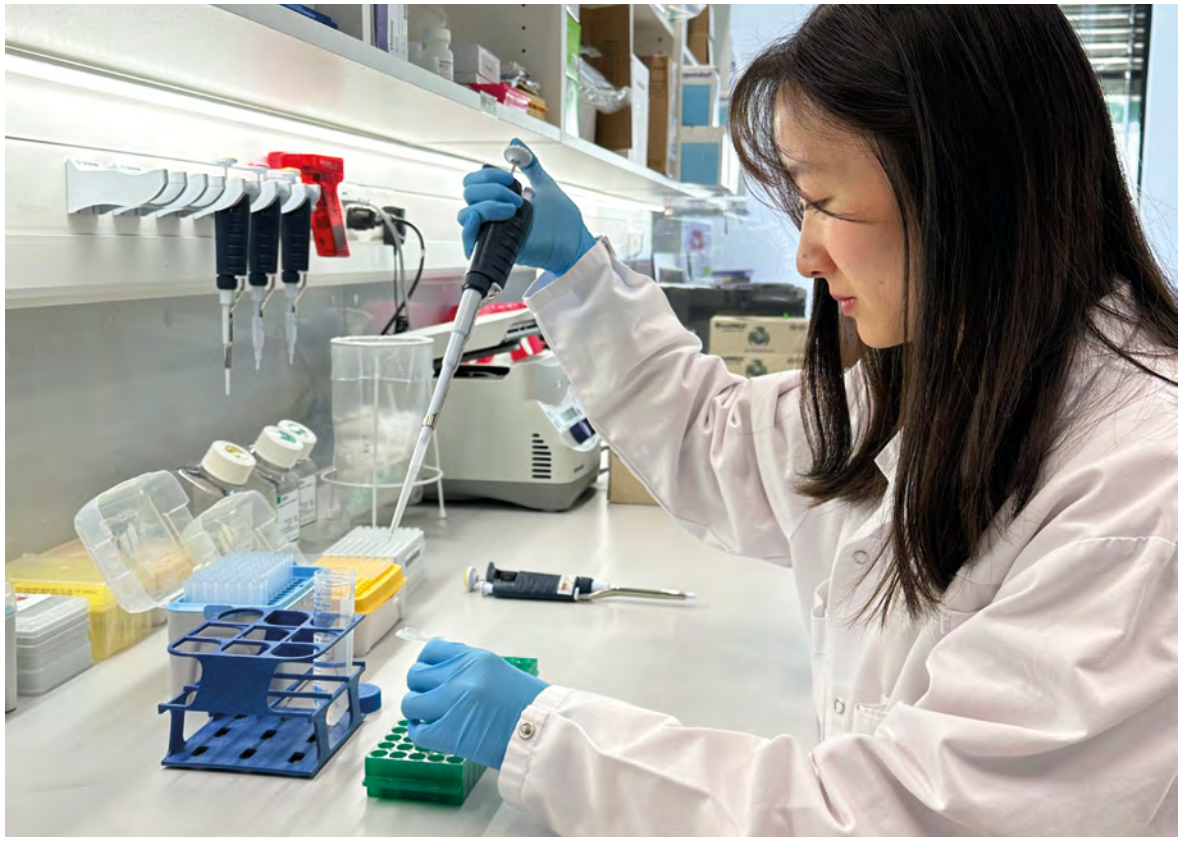
**Zurich UZH/UNIZH**
3 oncology research projects
1 collaborative TANDEM project

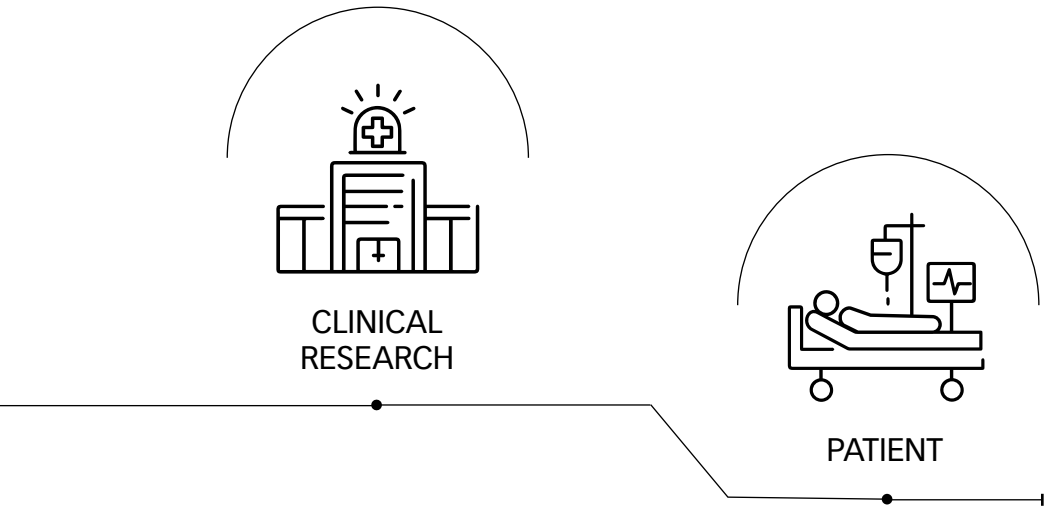
**Bellinzona IOSI/EOC**
2 oncology research projects
1 collaborative TANDEM project

# TRANSLATIONAL RESEARCH

Translational research helps accelerate the transfer of basic research findings to clinical research. By promoting collaborative research between clinicians and basic scientists, this discipline enables patients to benefit from new therapeutic discoveries to the fullest extent.






CLINICAL
RESEARCH
PATIENT

# INTERVIEW WITH DR. BENITA WOLF

«I find this balancing act between basic research and clinical application highly satisfying»

## Dr. Benita Wolf

Head physician / Medical Oncology Ward
Department of Oncology UNIL CHUV

**Benita Wolf, a German-born scientist, is a specialist in medical oncology. She divides her time between the experimental exploration of T cell synapses using a microscope and the care of her patients, between the setting up of a laboratory in Epalinges, her collaborators at the University of Geneva and her colleagues at the CHUV. She is a beneficiary of the first TANDEM program installment three years ago and perfectly embodies the ISREC Foundation's philosophy. An interview.**

**Benita Wolf, how did you get to where you are today?**

I grew up in eastern Germany, where I studied medicine and soon joined a research program. I chose to write my thesis in cardiology. In 2007-2008, I transferred to the Hitchcock Medical Center in Dartmouth (USA) for a short research program on immunotherapies for clear cell renal cell carcinomas. We were among the first to genetically investigate the immune system's cells, looking for genetic signatures that correspond to a therapeutic response. This project sparked my interest in fundamental cellular mechanisms.

I then returned to Germany to pursue my research and begin my clinical training, before taking on a postdoctoral position at the EPFL. My work there involved deciphering the molecular basis of cell division, using *C. elegans* and cultivated human cells to study the positioning of the mitotic spindle and the centrosome — basic research exploiting state-of-the-art microscopy techniques such as real-time imaging and super-resolution microscopy. After I returned to the clinic in the CHUV's oncology department in 2017, I began asking myself how I could combine this work with my past basic research. I knew that the CHUV was putting a strong emphasis on immunotherapies and I realized that at that time microscopy was rarely used to study the cells involved in these processes. And that is how it all began. I was granted a first fellowship that enabled me to step out of the clinic one day a week and to use this time to start studying the dynamics of the interaction between T cells and tumoral cells. Since then, thanks to the TANDEM program, we have developed a new super-resolution microscopy technique that allows us to study tumor cells and the cells of the immune system.

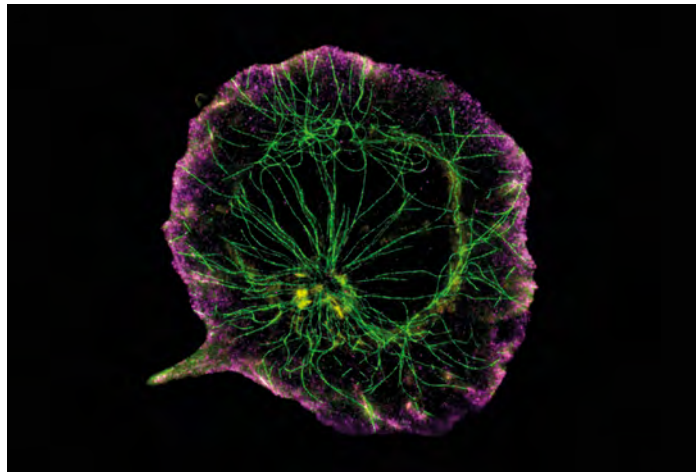
I have also completed my specialization in medical oncology. Unlike in Germany, where every specialist for a given organ automatically studies the related oncology, a gastroenterologist in Switzerland does not practice oncology. This means that today I also care for breast cancer patients; an enriching and exciting development!

**What led you to work with the ISREC Foundation?**

Firstly, the fact that I was a member of the Faculty of Life Sciences team at the EPFL, which in fact originated from the ISREC research teams in Epalinges. Secondly, medical oncology is at the heart of the ISREC Foundation's strategy to bring basic research closer to clinical medicine. For me, the Foundation was the obvious place to go, especially because the newly launched TANDEM program was exactly what we were looking for, which was to find ways to draw our research closer to the patients. This is the reason Dr. Virginie Hamel of the University of Geneva and I applied for a grant.

**Could you please describe your project and tell us how it has evolved over the past two years?**

The basic idea is that the immune system knows how to recognize and attack cancer cells and that we can improve this system so that our defense cells are better equipped to recognize cancer cells. This recognition happens thanks to a cell-to-cell connection called immunological synapse. Here's a merchant navy analogy: the better the harbor is built, the easier it is for a ship to dock. The basic structure is designed to trigger a specific action that kills cancer cells; so, the more precise the structure, the more efficient the suppression of cancer cells. What we lacked was a way to visualize this structure. Not only do cells meet. Macromolecules also position themselves in a very specific way, in a very stereotyped interface. And we know that the better the structure of the interface, the better the T cells (i.e., killer T cells) will function.



An immune cell after activation and expansion in the laboratory. The different internal structures are stained for better visualization: actin (magenta), tubulin (green) and surface proteins (yellow). The image was obtained using a fluorescence technique. Approximate size of the cell: 10 micrometers.

# INTERVIEW WITH DR. BENITA WOLF

We were therefore looking for ways to visualize this at a nano-scale, using a method that was neither too costly nor biased. Up until then, researchers had fixed cells for such investigations; a process that can have many undesirable effects. We therefore turned to cryo-freezing, an old technique used in electron microscopy. This method involves freezing the samples at -180°C in a liquid gas, thus preserving their nanostructure. To this we added a very novel technology called expansion microscopy. By creating a physical distance between the molecules, this technique enables scientists to investigate not only on a microscopic but also on a nanometric scale, without the use of a highly priced microscope. The elements we are interested in range between 10 and 100 nanometers in size.

In this context, we were very lucky to be able to hire Dr. Florent Lemaitre, a highly qualified and motivated scientist, as a postdoc working on the project.

**Do you aim to visualize these synapses in order to better study them?**

Exactly! We want to understand how T cell treatment and improvement influences the structure of their synapses. We also want to find out whether this approach could be used to decipher their cellular functions. We are particularly interested in the mechanisms involved in tumor cell destruction, as well as in the interactions and the mode of communication between the tumor cells themselves. If we manage to develop this method on a large scale, we could on the one hand save numerous mice, as we wouldn't need as many lab animals to collect chimeric antigen receptors (CAR). On the other hand, ideally, we would be able to move closer to the patients and observe how their cells behave on an individual level.

**Will you be able to help select killer cells to eliminate cancers?**

Yes, our strategy could help us determine which cells most effectively fight tumors. Research on cell therapies has made progress in this respect. However, if we could use the characteristics of the synapses to perform this selection, the process, first in lab mice and later in patients, would perhaps be simpler, and definitely of great value. But it is also a system to study patients' cells and to better understand why the current therapies do not always achieve their goal.

**Is this only possible for one type of cancer?**

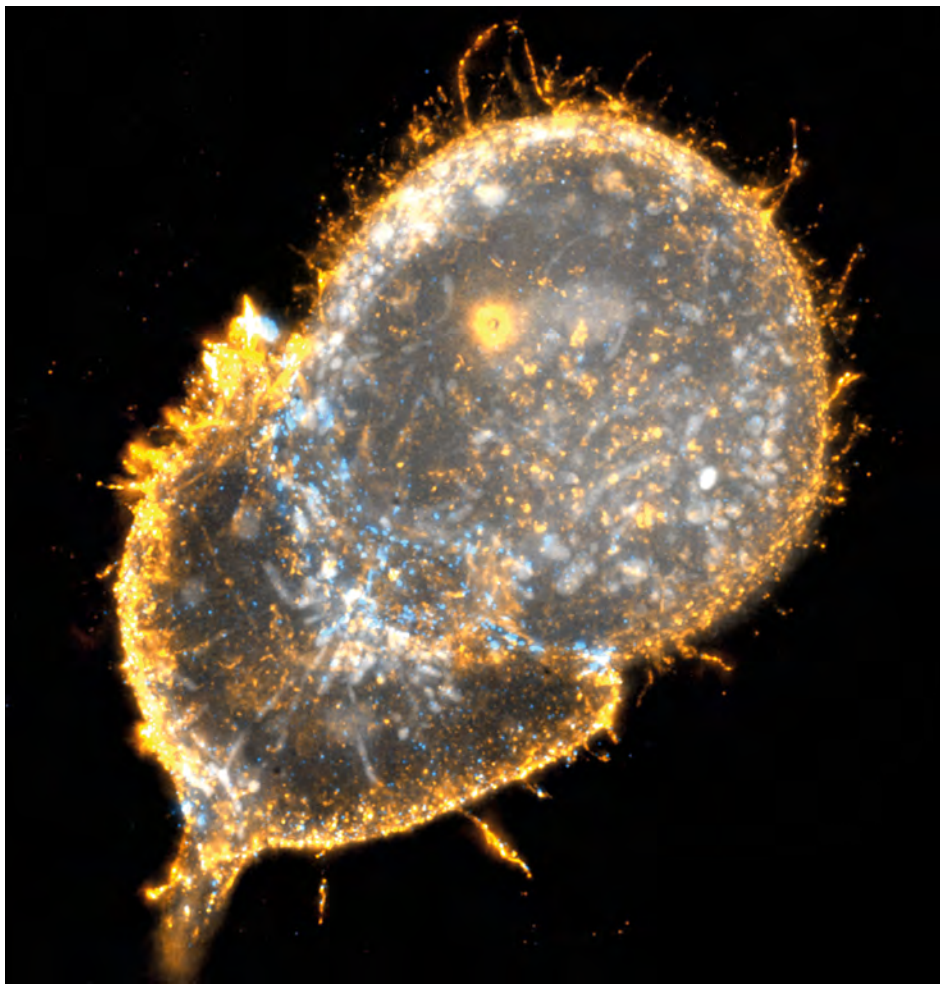
No, it is valid for all types of cancer. Current work focusses on hematological diseases and melanomas, but research is also evolving in the field of immunotherapies for solid tumors.

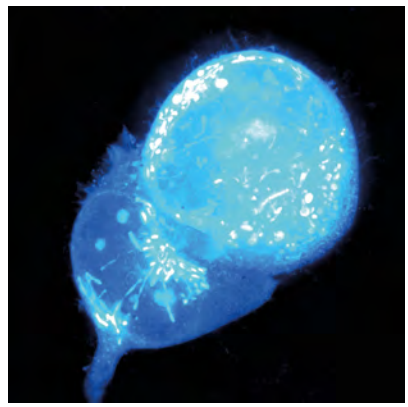
**What is it about translational research that particularly appeals to you?**

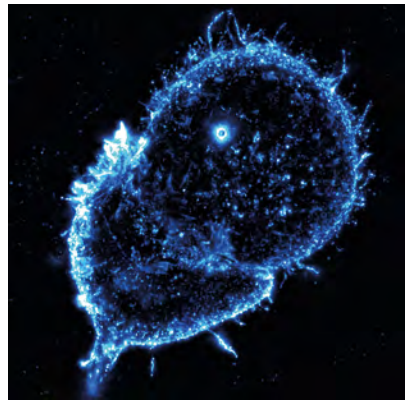
What fascinates me is that, on the one hand, we are witnessing a continuous evolution in the field of microscopy, particularly regarding super-resolution microscopy techniques and other technologies that allow us to investigate at the sub-nanometer scale. On the other hand, a revolution is also underway in cellular immunotherapy. Until now, these two domains have never converged, but in my research, I aim to bring the two together by visualizing these processes. We now need to find ways to apply them clinically. Personally, I find it very enriching to spend a day in medical oncology, to interact with patients, to understand their journey and to observe the effectiveness of their therapies. At the same time, I am constantly thinking in terms of cells and biological mechanisms. Back in the lab, I try to think of solutions, identifying needs, understanding the current limits and designing my research accordingly. I find this balancing act between basic research and clinical application highly satisfying, but also a major challenge: finding my place in the system and obtaining the funding needed to reconcile these two worlds requires constant juggling and great perseverance. Fortunately, foundations such as the ISREC Foundation make this adventure possible, by supporting projects at the interface between science and the clinic.

**Have your results lived up to the hopes you had at the beginning of the project?**

They are even better. At the beginning, we had no idea how things would go. T cells are very small, they have very little cytoplasm and it is extremely difficult to visualize structures within these cells. We were







**A human immune cell attacking a cancer cell**
The image shows a T cell after cryo-preservation and expansion, stained to highlight specific structures: actin (orange), the CD2 molecule (blue) and intracellular proteins (gray). A high concentration of CD2 can be observed at the contact point between the two cells. Approximate size: 10 micrometers.

delighted to discover that expansion microscopy works as we had hoped. And in the meantime, in collaboration with other scientists, we have managed to apply this method not only to cells but also to tissues. We are now able to visualize tissue layers in patients and to detect, at the nanometric resolution scale, intracellular molecules that can kill T cell entities; a fascinating prospect and something we had not expected. This is the result of an excellent collaboration: the project is being carried out in the lab of Prof. Paul Guichard and Dr. Virginie Hamel in Geneva. Their team are experts in structural biology and electronic microscopy, offering us a solid technical foundation to work with. For my part, I had already set up T cell imaging, which made us an ideal match. Dr. Virginie Hamel, co-applicant for the TANDEM funding, has played a key role in this synergy. The project was productive from day one, and we were already generating data after just three months.

# INTERVIEW WITH DR. BENITA WOLF

**Which doesn't happen very often, does it?**

Yes, this is not often the case. When you embark on such an undertaking, you never know what will happen. There's a certain amount of luck involved... but the ISREC Foundation was generous and believed in our project.

**What, in your opinion, is the role of a foundation that provides private support?**

It is an invaluable and essential resource; not only for the financial support it provides, but above all because it is based on scientific rigor and close monitoring of the research. It is crucial to have contributors who have the freedom to choose the direction in which they want to invest and support innovation.

« It is crucial to have contributors who have the freedom to choose the direction in which they want to invest and support innovation. »

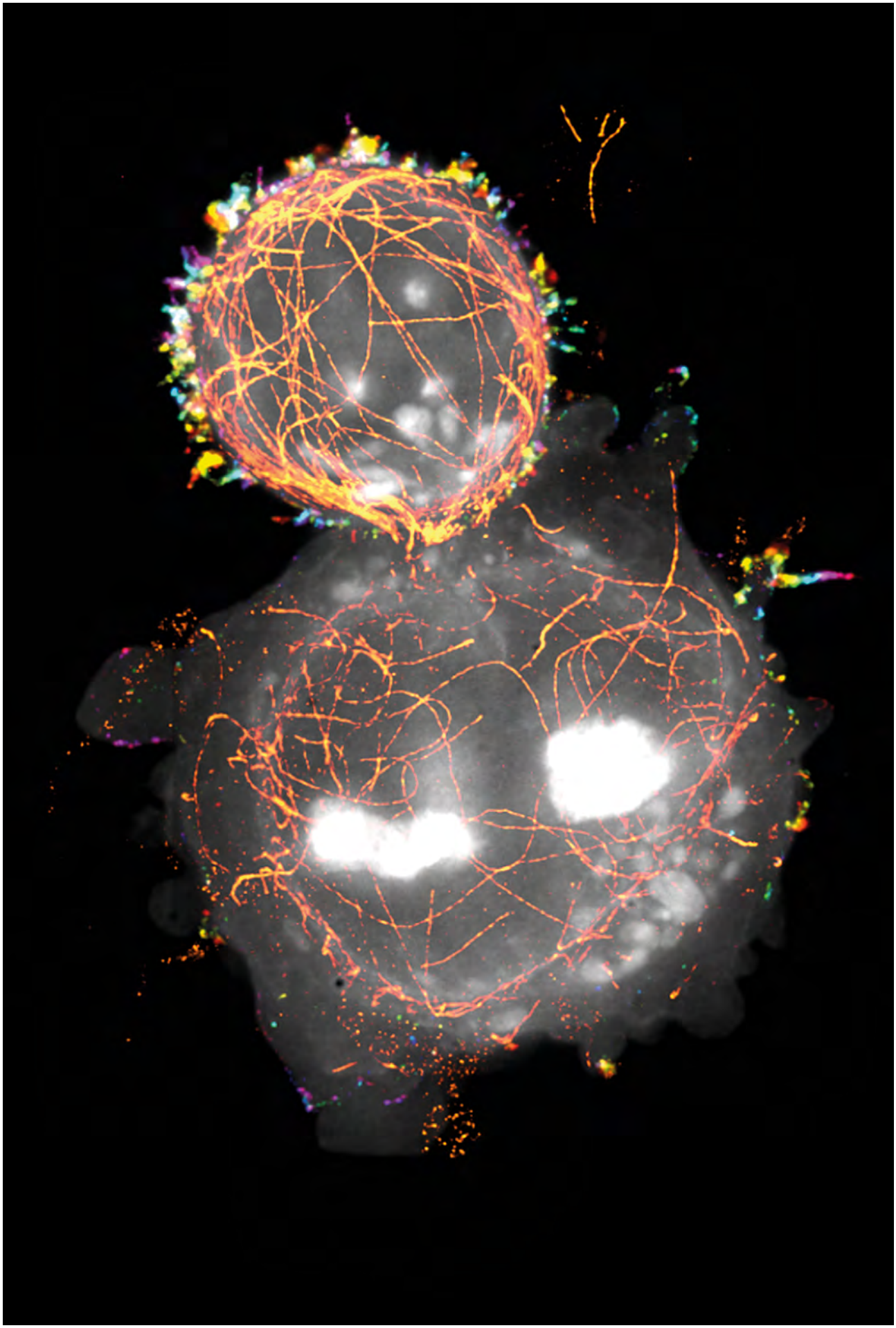
For high-risk projects that do not yet have sufficient preliminary data on which to base their approach, that are mainly based on a vision, a projection and a potential, foundations such as the ISREC Foundation are indispensable. Tomorrow's most transformative discoveries may come from these bold scientific initiatives.

Beyond these strategic considerations, there are also more existential questions we need to address: what is our purpose as a society? What is essential for humanity? Unrestricted and independent basic research allows us to better understand the world we live in. A society that neglects basic research jeopardizes not only its scientific future, but also its ability to meet tomorrow's challenges.

« Tomorrow's most transformative discoveries may come from these bold scientific initiatives. »

**What has the TANDEM program enabled you to achieve and what's next?**

The TANDEM program has enabled us to train a postdoc in cryo-expansion microscopy and immuno-oncology, and to lay a solid foundation for the investigation of the cells of the immune system and tumor tissues at the nanometric scale in near-native conditions. The program will come to an end in November 2025. As for the future, I am in the process of putting together a research team in Epalinges that will focus on cellular communication between immune and tumor cells. We aim to maintain a close collaboration with Dr. Virginie Hamel's team at the University of Geneva. In this sense, our project perfectly reflects the ISREC Foundation's philosophy: to support innovative research at the interface between basic biology and its clinical applications.



Art & Science Competition, Department of Molecular and Cellular Biology – Fall 2024
Photograph by Florent Lemaitre showing a T cell/tumor cell pair

# Prof. Susan M. Gasser

Director

**Another year of unprecedented success in our efforts to bridge from basic research to clinical application: In 2024, nine TANDEM projects were approved for funding, chosen from 42 letters of intent and 25 full grant applications**

# TANDEM — Pursuing Translational Cancer Research «à deux»!

A few years ago, the ISREC Scientific Board had a brain-storming discussion to decide how best to foster the integration of cutting-edge scientific insight into clinical practice. As a result, we launched a new program of funding that required equal participation of an active, medically trained clinician, with a scientist pursuing mechanistic insights into cancer. We asked scientists and clinicians to conceive of projects together, with the goal of bringing the basic research of one applicant, to bear on

the patients treated by the other. An added value would be to have the pair join forces in training a postdoc or student, creating a new generation of researchers able to think about both discovery and application.

The result of this visionary TANDEM program has been extremely rewarding. By now the Foundation has received over 150 «letters of intent» in which the goals of a common project are briefly described. Based on a quick review of their content, scope, and the complementarity of the applicants, a subset were invited to submit full projects, which were then subjected to a rigorous review by both international experts and our Scientific Board. The top 6 or so were funded each year. ISREC funds were used to finance six projects in both 2022 and 2023, and thanks to help from other foundations, we could fund 9 in 2024.

The impact of scientific research on cancer therapy has been enormous over the past 20 years. Advances range from the establishment of elaborate molecular diagnostics for a better use of targeted inhibitors to improvements in radiotherapies. There are also highly specific inhibitors available now, that block oncogenes amplified in select tumor types. Still, cancer cases increase, and innumerable challenges remain.

This year TANDEM projects addressed many aspects of immunotherapy, from the search of new epitopes in lymph nodes for programming CAR-T, to the protection of endogenous hematopoietic stem cells during AML immunotherapy. Novel approaches to protect liver from metastatic invasion and combinational CAR-T therapy for refractory sarcoma also figured among our new projects, as did the development of markers predicting response to immunotherapy in malignant pleural mesothelioma and in bladder cancer. Chosen for investment at a slightly lower level was a project that aimed to improve the compatibility between donors and recipients of hematopoietic stem cells, and a study focused on the effect of «wounding» on basal cell carcinoma.

Many female scientists and clinicians are among the recipients, as are a fair number of colleagues based in the AGORA cancer research center. Given our commitment to both «bench to bedside» and «bedside to bench», we are happy to see that the positive reception of our TANDEM program continues to grow. Hopefully in the years ahead, more and more clinicians and scientists will exchange freely, connecting laboratories to clinics. As in all human endeavors, communication is key to long-term success, and therefore we communicate here the efforts of our fortunate grantees.

# CONGRATULATIONS TO OUR TANDEM 2024 LAUREATES !

## IMPROVING TREATMENT FOR COLORECTAL CANCER TO PREVENT METASTASIS.

Prof. **Tatiana Petrova** (UNIL) — Dr. **Thibaud Koessler** (HUG)

**Colorectal cancer**

Colorectal cancer (CRC) is one of the world-leading causes of cancer-related mortality, and chemotherapy still is the mainstream treatment used for stage II and stage III CRC. The problem with chemotherapy is that in addition to killing cancer cells, it also attacks healthy tissues such as the gut and the liver. It is not yet known how chemotherapy alters the physiology and the susceptibility of these tissues. Recent research has shown that upon introduction of chemotherapy, there is a release of gut-derived bacterial metabolites. These metabolites have the ability to prevent liver metastasis by halting metastatic growth and reprogramming the immune vascular niche of the liver.

With this TANDEM project, Prof. Petrova and Dr. Koessler will collaborate to investigate the therapeutic and diagnostic potential of these findings in colorectal cancer patients. They aim to do this by analyzing the metabolites that get released in response to chemotherapy, by identifying the liver metastasis niche, and by examining the effect of the metabolites on patient-derived organoids (miniature versions of liver cultivated *in vitro*).

More specifically, they will :

1. Profile the metabolites that are released in response to chemotherapy in CRC patients and relevant animal models.

2. Characterize alterations in the liver metastasis niche in response to chemotherapy and gut microbiota components.

3. Analyze how the released factors act on the growth of patient-derived organoids and metastasis formation *in vivo*.

This project will provide insight into how the response of organs to chemotherapy can directly influence patient outcome. The translational goal of this project is to address the current lack of biomarkers that could predict the sensitivity of chemotherapy in clinical practice. Ultimately, this could improve both diagnostic tools and therapeutic options.

## EVALUATION OF THE NEOANTIGEN-SPECIFIC T CELL RESPONSE IN PLEURAL CARCINOSIS MANAGED BY PRESSURIZED INTRATHORACIC HYPERTHERMIC AEROSOL CISPLATIN CHEMOTHERAPY (PITHAC).

Prof. **Jean Yannis Perentes** (CHUV) — Dr. **Michal Bassani-Sternberg** (UNIL)

**Pleural carcinosis**

Pleural cancer occurs outside the lungs, in the cavity between the lungs and the chest wall that contains a lubricating fluid, as well as along the pleural lining, a membrane surrounding the lungs and lining the chest cavity. Cancer in the pleural cavity has usually spread from somewhere else in the body, most commonly from lung cancer, but it can also come from the breast, ovary, pancreas, colon, or other locations. Given that pleural tumors are almost always metastatic and difficult to operate, prognosis is poor. One in four patients survives five years after diagnosis of pleural carcinoma. Fortunately, the incidence is low, affecting one in 2000 cancer patients.

A novel therapeutic approach for pleural carcinoma combines localized, pressurized drug delivery with heat-induced immune stimulation, and goes by the name of PITHAC (pressurized intrapleural hyperthermic aerosol chemotherapy). It is thought that PITHAC triggers a tumor-specific immune response, yet its efficacy in pleural carcinosis remains poorly understood.

This novel project combines a clinician with expertise in the treatment of pleural carcinosis and a biochemical protein analysis expert. The aim is to determine if PITHAC induces novel antigens on the tumor cells, which in turn trigger a neoantigen-specific response in the immune system, notably in T cells. By determining the antigenic landscape in the tumors of patients with pleural carcinosis, this study will determine if the mode of action of PITHAC includes the induction of a protective neoantigen-specific T cell response. If so, it would then be reasonable to combine PITHAC with immunotherapies to make them more efficacious.

The researchers will apply this analysis to the patients enrolled in a Phase I clinical trial that started in 2023 at the CHUV. The trial will assess the feasibility and toxicity of PITHAC in pleural carcinosis patients, and during this trial blood and pleural fluid samples will be collected (after surgery and periodically for a month). The TANDEM grant will finance the analysis of these samples.

The novelty of this project is its longitudinal antigen discovery study, comparing patients before and after therapy, potentially facilitating the integration of PITHAC with immune checkpoint blockade inhibitors and enhancing the study's translational impact.

## IMMUNOTHERAPY IN MALIGNANT PLEURAL MESOTHELIOMA.

Prof. **Ren-Wang Peng**, PhD (INSEL) — Prof. **Adrian Ochsenbein** (INSEL) — Dr. **Sabine Schmid** (INSEL)

**Lung cancer**

Primary pleural cancers such as the malignant pleural mesothelioma, a lung cancer related to asbestos exposure, are cancers that develop in the chest cavity. Mesothelioma is a devastating cancer of high unmet medical need, and its heterogeneous response to immune checkpoint blockade is the rate-limiting factor for improved treatment.

The project led by Profs Peng and Ochsenbein and Dr. Schmid aims to discover novel immune targets and mechanisms of resistance to immunotherapy in mesothelioma patients. The work builds upon the present state of understanding of mesothelioma treatment, and by determining the variables that correlate with patient response, this study will pave the way for future innovative therapies.

Making use of a large cohort of 109 malignant pleural mesothelioma patients, they will identify the molecular and cellular determinants that correlate with a response to treatments that unblock the patient's immune response against the tumor. They will use state-of-the-art molecular technologies that visualize the gene expression patterns in the cancer and in the surrounding tissues, cell by cell.

They hope to identify signatures that distinguish responsive from nonresponsive tumors. They will then compare the signature across sections of malignant pleural mesothelioma to determine the effects of the treatments on tumor cell behavior, examining not only the tumor but also the immune cell response to the treatment. To confirm what they will have learned from patient samples, they will then use mouse models of the disease, applying various inhibitors to the mice bearing human mesothelioma. Finally, they will combine immune checkpoint inhibitor therapies with effective inhibitors of growth, both in mouse models and eventually in patients.

The goal is to improve treatments against this devasting disease.

# CONGRATULATIONS TO OUR TANDEM 2024 LAUREATES !

## IMPROVING THE EFFICIENCY OF IMMUNOTHERAPY FOR ACUTE MYELOID LEUKEMIA.

Prof. **Andreas Holbro** (USB) — Prof. **Lukas Jeker** (UNIBAS)

**Acute myeloid leukemia**

Acute myeloid leukemia (AML) is a cancer that starts in the blood-forming cells of the blood marrow, and which results in the rapid death of the patient if left untreated. Formerly, treatment was based on chemotherapy followed by a hematopoietic stem cell transplantation. More recently, immunotherapy, which programs killer T cells to attack the cancer cells, has been attempted. Unfortunately, even after intensive and aggressive treatments, a large portion of patients still relapse, and immunotherapy tends to attack healthy as well as leukemic cells. New, innovative treatments and approaches for AML are an urgent unmet clinical need.

To date, the search for AML-specific targets for targeting by cancer-killing CAR-T immune cells, has been unsuccessful. The scientists in this project are now trying a different approach by reversing the therapeutic concept. Their primary goal is now a complete eradication of the disease, including the leukemic stem cells (LSC), while protecting healthy hematopoietic stem cells from the immunotherapeutic attack. This should prevent relapse and overall improve patient outcome.

The TANDEM team, consisting of Prof. Jeker and Prof. Holbro, will investigate a potential «cloaking mechanism» that can be used to shield healthy hematopoietic stem cells from the agents that are used to kill the cancer cells. To do this, the scientists need a cell marker (cell surface protein) that is present on both the healthy and the cancer cells, and which they can modify genetically on the hematopoietic stem cells taken from the patient. The protected hematopoietic stem cells will then be re-introduced after AML therapy to regenerate the bone marrow, providing the altered protein does not prevent the cells from functioning normally. The AML-directed immunotherapy will be introduced into the patient and will only recognize the targeted marker on the cancer cells, since the healthy cells carry an altered or mutated marker. This could favor recovery, prevent relapse and improve efficacy of AML treatment.

# CONGRATULATIONS TO OUR TANDEM 2024 LAUREATES !

## IMMUNOTHERAPY FOR SARCOMA TREATMENT.

Dr. **Antonia Digklia** (CHUV) — Dr. **Melita Irving** (CHUV/UNIL)

**Sarcoma**

Sarcomas are a rare group of cancers that develop in bones and connective tissue such as fat and muscle. In most cases, their origin is unknown, although family history and exposure to chemicals or radiation may increase risk. Many types exist, some of them prevalent in pediatric patients, and symptoms depend on tumor type and location.

Current treatments are primarily surgery, radiation, and chemotherapy, yet these offer limited success, especially for advanced cases. There have been some promising results with targeted therapies, but responses are often short-lived. Immunotherapy, particularly chimeric antigen receptor (CAR) T cell therapy, poses significant challenges due to the suppressive tumor microenvironment.

Dr. Digklia and Dr. Irving will address the limitations of current sarcoma treatments using a multidisciplinary approach. They will enhance their understanding of sarcoma characteristics, design and produce novel CAR-T cells tailored to sarcoma, and test ways to augment their efficacy.

The aims of the team, composed of one clinician and one basic scientist, are the following :

1. Characterization of sarcoma biopsies from patients treated at the Sarcoma Center of the CHUV to understand tyrosine kinase inhibitor (TKI) resistance and the barriers to CAR-T cell therapy.

2. Development and engineering of CAR-T cells, targeting B7H3, GD2, and EphA2 antigens for reactivity against sarcoma tissue, using biopsies and cell lines.

3. Optimization of CAR-T cell therapies for clinical translation, using TKIs or other drugs to enhance their efficacy.

Overall, the goal is to develop new, effective treatments for sarcomas, and to test next-generation CAR-T cells designed on the basis of their *in vitro / in situ* results. The scientists will genetically engineer new receptors for CAR-T cells and design new stratification tools for tumors. In addition to producing CAR-T cells, they will analyze the healthy tissues surrounding tumors to improve the access of CAR-T cells to the tumor tissue.

The proposed CAR-T targets are well-established and have been used in the treatment of neuroblastomas. In this project the team applies them to a rare tumor with a bad prognosis. This innovative, collaborative, and translational project has the potential to offer patients with untreatable sarcoma new perspectives.

## EXPLORING THE ANTI-TUMOR FUNCTIONS OF IMMUNE CELLS IN BLADDER CANCER.

Dr. **Laurent Derré** (UNIL) — Dr. **Ilaria Lucca** (CHUV)

**Bladder cancer**

Bladder cancer (BCa) is a major health concern, causing approximately 1400 deaths every year in Switzerland alone. In comparison to prostate cancer, for which recent advances have increased the 5-year survival rates significantly, progress on bladder cancer has stalled. BCa are classified according to how invasive the tumor is at the time of the initial diagnosis. Tumor recurrence is frequent, even when the patient was initially categorized as low risk. For medium- and high-risk patients, it is even worse, as their tumors frequently progress to a muscle-invasive state that requires cystectomy (removal of the bladder). A major challenge is to prevent an initially non-invasive bladder cancer from progressing to muscle invasive disease, which has a much worse prognosis.

So far, the therapeutic approach most commonly used is an intravesical therapy. In this procedure, an immune stimulating agent (such as the Bacillus Calmette-Guerin inoculum (BCG)) is introduced into the bladder to prevent or at least delay tumor recurrence and/or growth. Unfortunately, about 20 to 30% of all patients discontinue the treatment due to severe side effects. Also, it has been shown that even when treated, 20% of all patients experience early recurrence, and only about 45% remain cancer-free for five years. There is an urgent need to find new prognostic tools to identify patients at risk for BCG failure and to predict tumor recurrence/progression. More robust prediction tools may help improve the patient's life quality.

This TANDEM project aims to explore the potential of Vδ2 T cells (a subtype of T lymphocytes) in this respect. These cells are a subgroup of T cells that infiltrate tumors (called tumor-infiltrating lymphocytes). Recent research has shown that they have the ability to control tumor growth in mice. It remains to be shown that this is relevant to humans, which is why more research using human samples is needed. Specifically, this project will unveil the Vδ2 T transcriptomic landscape at the single cell level, with the hope that it can serve to identify new biomarkers and allow for the development of new treatments for BCa.

## NEW BIOMARKERS FROM LYMPH NODES FOR PROGRAMMING IMMUNOTHERAPY AGAINST TRIPLE-NEGATIVE BREAST CANCER.

Prof. **Mohamed Bentires-Alj** (UNIBAS) — Prof. **Walter Paul Weber** (USB)

**Breast cancer**

Breast cancer (BC) remains one of the leading causes of death among women, and 80% of breast cancer deaths are caused by metastatic disease. The majority of these deaths occur in hormone receptor positive patients (HR+), which constitute 80% of all diagnosed breast cancers. In these tumors, the hormone estrogen signals through its receptor to drive tumor growth. Anti-hormone therapy, also called endocrine therapy, which blocks estrogen receptor signalling activity, is the standard treatment for these tumors. Unfortunately, resistance to this therapy increases over time and nearly all HR+ BC patients become refractory to endocrine therapy, generating a large unmet clinical need for new ways to treat HR+ BC patients.

This TANDEM study addresses this urgent unmet need by aiming to identify predictive biomarkers for therapy guidance and patient selection for immunotherapy against HR+ BC. Immunotherapy represents a paradigm shift in the treatment protocols for BC. Yet, to date, it has had little efficacy against recurrent and metastatic BC.

The approaches used in the past to characterize immune therapy-related biomarkers have focused only on the tumor, and no one has checked if promising markers for immune checkpoint therapy can be detected in nearby tissues. This project will investigate the potential of identifying immunological markers in tumor-draining lymph nodes (TDLN). TDLNs are the first sites at which the immune system encounters tumor antigens, and these lymph nodes help orchestrate the anti-tumor adaptive immune response. In short, this project is based on the hypothesis that biomarkers found in the TDLN at the early stages of the disease may be more effective for programming and predicting responsive immune cells.

The ultimate aim of the project is to find biomarkers in the lymph nodes near HR+ breast tumors that can indicate sensitivity or resistance to immunotherapy.

## WOUNDING AS A DRIVER OF CANCER PROGRESSION IN BASAL CELL CARCINOMA.

Prof. **Santiago Carmona** (UNIGE) — Dr. **François Kuonen** (CHUV)

**Basal cell carcinoma (BCC)**

Basal cell carcinoma (BCC) is the most frequent human cancer. While most BCCs can be resected surgically, a fraction of tumors progresses to an advanced invasive stage for which effective therapies are needed. We hypothesize that wounding is a key factor promoting BCC invasive progression and that understanding this mechanism will lead to improved therapies. Here we propose to i) characterize the mechanisms by which wounding drives BCC progression in terms of cancer cell plasticity, tumor microenvironment remodeling, and cell-cell interaction circuits; and ii) identify actionable molecular targets to reverse wounding-induced BCC progression and overcome therapy resistance. To this end, the multi-disciplinary research team will combine single-cell spatial transcriptomics profiling and *ex vivo* culture of patient-derived tumor fragments with the development of computational methods.

The project has the potential to reveal fundamental mechanisms linking wounding and cancer progression with relevance in cancer types beyond BCC, and to improve the outcome of patients with advanced BCC where standard-of-care therapies currently fail.

# CONGRATULATIONS TO OUR TANDEM 2024 LAUREATES !

## OPTIMIZED PREDICTIONS OF PATIENT-DONOR IMMUNE COMPATIBILITY FOR HEMATOPOIETIC STEM CELL TRANSPLANTATION.

Prof. **David Gfeller** (UNIL) — Prof. **Jean Villard** (HUG)

### Optimizing bone marrow transplantation

The primary goal of the project is to optimize the prediction of recipient-donor genetic compatibility for hematopoietic stem cell transplantation (HSCT) in hematological malignancies. Recipient-donor compatibility is one of the best predictors of the success of HSCT. By improving prediction accuracy, the project seeks to reduce the incidence of graft-versus-host disease and other immune-related complications. This advance could potentially increase the survival rates and quality of life for patients undergoing this common and key practice in the clinic.

Prof. Gfeller and Prof. Villard will capitalize on a combination of state-of-the-art immunopeptidomics data, machine learning algorithms and clinical data to develop their predictor of recipient-donor genetic compatibility. This model is designed to learn from past transplantation outcomes, thereby continuously improving its predictive capability. The team plans to integrate their results with current medical knowledge to develop a robust tool that can be used directly in clinical settings to assist in making more informed donor selection decisions.

## OTHER ONGOING TANDEM PROJECTS

Dr. **Intidhar Labidi-Galy** (HUG) and
Dr. **Sven Rottenberg** (UNIBE) – **Ovarian cancer**
Analyzing the role of the tumor microenvironment in platinum drug-resistant ovarian cancer.

Prof. **Mark Rubin** (UNIBE) and
Dr. **Silke Gillessen Sommer** (IOSI) – **Prostate cancer**
Identification of new targets to treat prostate cancers that are non-responsive to available treatments.

Prof. **Charna Dibner** (UNIGE),
Prof. **Alfredo Addeo** (HUG) and
Dr. **Wolfram Karenovics** (HUG) – **Lung cancer**
Investigating the connection between circadian system and lung tumor generation to personalize time schedules for chemo-immunotherapy.

Prof. **Elisa Oricchio** (EPFL) and Dr. **Anne Cairoli** (CHUV) – **Lymphatic cancer organoids**
Using tissue derived from the patient to predict effectiveness of different treatments to find the best one for each patient.

Prof. **Denis Migliorini** (UNIGE) and
Dr. **Gioele La Manno** (EPFL) – **Brain tumors** (Glioblastoma)
Analyzing tertiary lymphoid structures as part of the brain tumor environment to develop immune therapies against glioblastoma.

Prof. **Christian Simon** (CHUV) and
Prof. **Christophe Moser** (EPFL) – **Head and neck cancer surgery**
Development of an endoscope to better define tumor margins during surgery.

Prof. **Michele de Palma** (EPFL) and
Dr. **Nahal Mansouri** (CHUV) – **Head and neck cancer surgery**
Expanding the knowledge on the potential of cancer vaccines.

Dr. **Virginie Hamel** (UNIGE) and Dr. **Benita Wolf** (CHUV) – **Microscopy in translational immuno-oncology**
Employing new visualization technologies will further the understanding of CAR-T cell therapy.

Prof. **Giovanni Ciriello** (UNIL) and Dr. **Igor Letovanec** (CHUV) – **Lung cancer** (Adenocarcinoma)
Understanding disease progression in lung cancer.

Prof. **Marianna Kruithof-de Julio** (UNIBE) and
Dr. **Bernhard Kiss** (Inselspital) – **Bladder cancer**
Development of AI systems to assist in staging and treatment of bladder cancer patients.

Prof. Dr. **Michael Scharl** (USZ) and
Prof. Dr. **Isabelle Arnold Wallén** (UZH)
– **Colorectal cancer**
Development of new therapy for patients with resistant colorectal cancer.

Prof. **Camilla Jandus** (UNIGE), Dr. **Francesco Ceppi** and Prof. **George Coukos** (CHUV) – **Pediatric leukemia**
TCR-engineered CD4 T cell transfer for optimized cancer immunotherapy in adult and pediatric patients.

The Scientific Board of the ISREC Foundation vouches for the development and scientific monitoring of these projects. Supervision and financial management are ensured by our administrative and financial management office.

*Information on TANDEM projects*

# SUPPORTED PROJECTS

## YOUNG SCIENTISTS

The ISREC Foundation supports PhD students in the fields of biology and medicine.

***Students** supported in 2024*:

**Benoît Duc**
**Lab of Prof. Johanna Joyce, Oncology Department, UNIL/LUDWIG/CHUV**
*ISREC PhD grant aiming to model and investigate the tumor microenvironment of non-small cell lung cancer brain metastasis.*

**Benedetta Fiordi**
**Lab of Prof. Camilla Jandus, UNIGE**
*ISREC MD-PhD scholarship for the analysis of the role of TREM2 in lymphoid cell inhibition in AML.*

**Christoph Iselin**
**Lab of Prof. Emmanuella Guenova, UNIL**
*ISREC MD-PhD scholarship to study the role of natural killer cells in cutaneous T cell lymphoma: pathophysiological mechanisms and clinical implications.*

**Simge Yücel**
**Simge Yücel – Labs of Prof. Douglas Hanahan and Prof. Michele De Palma, School of Life Sciences EPFL/SV/ISREC**
*ISREC PhD grant to study the mechanisms and therapeutic targeting of the neuronal NMDAR signaling pathway promoting breast cancer pathogenesis.*

*Supported scholarships*

*Information on professorial chairs*

## PROFESSORIAL CHAIRS

Professorships enable young professors affiliated with a Swiss academic institution to launch their research careers.

*The **chairs** financed by the ISREC Foundation in 2024*:

**Prof. Denis Migliorini (UNIGE/AGORA) – ISREC Brain tumor immunology chair**
*This ISREC immunology chair is dedicated to the immunology of brain tumors. The associated research in this program explores new therapeutic approaches for brain tumors and in particular for glioblastoma, a highly aggressive form of the disease.*

**Prof. Mikaël Pittet (UNIGE/AGORA) – ISREC Immuno-oncology chair**
*This ISREC immuno-oncology chair is dedicated to the study of cancer immunity in context. The associated research in this program aims to discover how the immune system controls cancer and other diseases, and how it can be exploited for therapeutical purposes.*

**Prof. Nicolas Thomä – (EPFL) – Paternot chair for interdisciplinary cancer research**
*The goal of the Paternot Chair for interdisciplinary cancer research is to study the protein-protein interactions that play a role in cell fate decisions, with the goal of chemical intervention in those that are disease-causing.*

## TRANSLATIONAL RESEARCH

Translational research projects encourage collaborations between basic and clinical research. Their goal is to study cells and their interactions with the environment, and to provide impulses for novel therapies and clinical approaches designed to act on the causes of cellular malfunction.

***Projects** supported in 2024 :*

**Chantal Arditi (Unisanté) – Analysis of oncology patient data**
*Research project in the field of oncological care, aiming to develop a survey on cancer patient-reported healthcare experiences in Switzerland.*

**Prof. Holger Auner (CHUV) – Multisystem cancer biology**
*Translational research project in the field of multisystem cancer biology aimed at targeting the interplay between intra- and extracellular proteostasis.*

**Dr. Francesco Ceppi (CHUV) and Prof. Caroline Arber (UNIL) – Immunotherapy for the treatment of myeloid leukemia**
*The FIAMMA project (Chimeric Antigen Receptor T Cell Therapy for Children and Adults with Relapsed Acute Myeloid Leukemia) is supported by a donation from the Jacqueline de Cérenville and the Jan Baron Mladota Foundations.*

**Prof. Jean Bourhis (CHUV) – FLASH Therapy**
*The FLASH project is exclusively funded through a donation made by the Biltema Foundation. In collaboration with the CERN and Theryq SA, a medical technology company, this program aims to study the clinical translation, development and clinical modelling of FLASH radiotherapy treatments. This unique model will eventually enable the treatment of all types of deep-seated tumors.*

**Dr. Antonia Digklia (CHUV) and Dr. Melita Irving (CHUV) – Immunotherapy for sarcoma treatment**
*Translational research project aimed at improving the treatment of sarcomas thanks to a tyrosine kinase inhibitor administered in combination with an innovative CAR-T cell therapy.*

# SUPPORTED PROJECTS

**Prof. David Gfeller (UNIL) – Mechanisms of recognition of cancer cells by the immune system**
*Translational research project aimed at unravelling the rules by which T cells recognize cancer-specific epitopes.*

**Prof. Emmanuella Guenova (CHUV) – Mycosis fungoides**
*Translational research project based on a systems medicine approach to tackle problems of early diagnosis and prognostic stratification of mycosis fungoides.*

**Dr. Krisztian Homicsko (CHUV), Prof. Raphael Gottardo (UNIL) and Dr. Pierre Moulin (CHUV) – Spatial Transcriptomics in Melanoma**
*Translational research project on the deconstruction of the spatial architecture of early-stage melanoma response to neoadjuvant PD-1 immunotherapy.*

**Prof. Camilla Jandus (UNIGE) and Prof. Grégory Verdeil (UNIL) – Bladder cancer**
*Translational research project targeting novel molecular networks underlying bladder cancer recurrence and progression.*

Art at life's frontiers, mirroring the AGORA scientists' endeavor to push back the limits of cancer research.
**Aljoscha 2020**

**Prof. Johanna Joyce (UNIL/LUDWIG) – Brain tumors**
*Translational research project to explore the role of neutrophils in brain metastasis.*

**Dr. Filipe Martins (EPFL) – New treatment for phantom breast syndrome**
*Translational research project aiming to develop a mirror therapy for phantom breast syndrome.*

**Prof. Chantal Pauli (USZ) – Identification of personalized therapeutic strategies**
*Translational research project aiming to customize treatment in cancer patients and to uncover cancer vulnerabilities.*

**Prof. Davide Rossi (USI/IOR) – The lymphoma microenvironment**
*Translational research project aiming to understand how clonal hematopoiesis feeds lymphoma.*

**Prof. Mark Rubin (UNIBE) – Prostate cancer**
*Translational research project on the use of advanced in vitro models of prostate cancer metastases to unravel and overcome ARSI resistance.*

**Prof. Curzio Rüegg (UNIFR) – Breast cancer screening**
*Study aimed at developing a test for the early detection of primary breast cancer and breast cancer relapse.*

**Prof. Carsten Riether (UNIBE) and Dr. Marc Wehrli (INSEL) – Blood cancer**
*Enhancing CAR-T Cell Therapy for Refractory Multiple Myeloma.*

*Information on supported projects*

# SCIENTIFIC EVENTS

## SUR/SRP Summer Program

In 2024, the ISREC Foundation provided support to seven students participating in the SUR/SRP «Summer Research» program, a collaboration between the UNIL and the EPFL. Since 2006, this scientific program has offered over 400 international students a unique opportunity to engage in scientific research. More than just an internship, it plays a key role in their career path, helping them to define their academic and professional ambitions. Many participants leave more confident and determined, some even regaining the motivation to pursue their dreams despite the realities of their home countries.

The 2024 SUR/SRP team with Prof. Susan M. Gasser

Over the course of eight weeks, these selected young biologists and physicians discover the world of research in a stimulating environment, acquiring essential skills and developing an international network. This program also benefits the host labs, giving them the opportunity to meet talented students who might, someday, return for a Master's or PhD degree. As in previous years, the 2024 edition of the program received enthusiastic feedback, underscoring the value of human interactions and the scientific quality of the projects.

As the SUR/SRP Program prepares to celebrate its 20th anniversary, we are proud of our involvement in this undertaking and of our long-standing commitment to cultivating the talents of promising young professionals.

Congratulations to these **promising students!**

**Jatin Choudhary**
c/o Prof. Caroline Arber – UNIL
University of British Columbia in Vancouver, Canada

**Kakima Kastuganova**
c/o Prof. Aurélie Berthet – UNIL
Nazarbayev University in Astana, Kazakhstan

**Nancy Paris Rosen**
c/o Prof. Jonas Richiardi – UNIL
McMaster University, Hamilton, Canada

**Pavel Feskin**
c/o Prof. Sebastian Maerkl – EPFL
Lomonosov University, Moscow, Russia

**Marlene Maager**
c/o Prof. Patrick Barth – EPFL
Heidelberg University, Heidelberg, Germany

**Zhansaya Matkenova**
c/o Prof. Pierre Gönczy – EPFL
Carnegie Mellon University, Al-Rayyan, Qatar

**Fateme Ramezan Zade**
c/o Prof. Sahand Jamal Rahi – EPFL
Sharif University of Technology, Tehran, Iran

# SCIENTIFIC EVENTS

## Scientific conferences, symposia and workshops

In 2024, more than 150 events, **symposia** and **scientific lectures** were held in the Paternot auditorium and the lecture rooms of the AGORA Cancer Research Center, most of them directly related to research and oncology.

The ISREC Foundation will continue to prioritize oncology events in the AGORA Center's program of activities, reflecting its two main missions, which are to foster experimental, translational, and clinical research, and to support the next generation of scientists and physicians in this field.

# HIGHLIGHTS IN 2024

## MARCH

**Supporting research with new scientific equipment**

Thanks to an exceptional donation of **150 000 CHF** from the A**ssociation Josy Marty ECHEC AU CANCER DE LA BROYE**, the AGORA's molecular imaging lab was able to acquire state-of-the-art equipment: a BeaQuant-S imaging system. In nuclear medicine, the injection of radioactive tracers enables the detection of tumors using a PET scanner. Led by Prof. Margret Schottelius, AGORA research teams are developing novel tracers that can be used to visualize and quantify the immune cells present in tumors. With the BeaQuant-S, which offers a 1000-fold higher resolution than PET imaging, the scientists now have a tool of unprecedented precision to gain a better understanding of the tumor microenvironment and to refine therapeutic strategies.

The committee of the Association Josy Marti ECHEC AU CANCER DE LA BROYE with Prof. Margret Schottelius

The Association Josy Marty ECHEC AU CANCER DE LA BROYE has tirelessly been supporting cancer research for the past 28 years. Thanks to the efforts of numerous volunteers, **337 000 CHF** have already been raised for the fight against cancer.

A huge THANK YOU to the members of the association for their commitment and their unfailing support!


Prof. Susan M. Gasser at the Swiss Who's Who 2024

## MARCH

Our director, **Prof. Susan M. Gasser**, received the **Swiss Who's Who 2024 People's Choice Award**. This distinction celebrates outstanding Swiss personalities, and in 2024 honored women whose commitment and achievements have shaped their field. This award recognizes Prof. Gasser's dedication, passion and positive impact on scientific research.

## APRIL

Prof. Franco Cavalli

The **American Association for Cancer Research (AACR)** presented **Prof. Franco Cavalli** with an «**Award for Lifetime Achievement**». This award honors Prof. Cavalli's career, his contributions to cancer research and his pivotal role in the development of novel therapies.

An internationally acclaimed lymphoma and breast cancer expert, he dedicated decades to advancing research and improving patient care. His commitment was not limited to laboratories and scientific institutions: he also devoted his energy and expertise to the ISREC Foundation for nearly 20 years, serving as chairman of its Scientific Board from 2008 to 2021. A well-deserved award that crowns an exceptional career of service to research and patients.

## APRIL

The **Clinique AmiiA** chose to mark its 1st anniversary by supporting cancer research and **breast cancer** in particular; a generous gesture of solidarity that testifies to the clinic's commitment to scientific innovation and treatment improvement.

We are profoundly grateful to **Marie de Riedmatten** and **Dr. Debora Schivo**, co-founders and co-directors of the Clinique AmiiA and authors of this invaluable initiative. Their support is an expression of their compassion and solidarity with those affected by cancer.

Marie de Riedmatten and Dr. Debora Schivo, co-founders and co-directors of the Clinique AmiiA, with Prof. Pierre-Marie Glauser, president of the ISREC Foundation

## JUNE

On June 23, 2024, an incredible community of volunteers rallied for the 10th edition of the **Trophée AGO**, a sports tournament dedicated to the fight against cancer in honor of **Agostino** who died much too soon of cancer. This event raises funds for a number of associations, including the ISREC Foundation.


The dynamic and solidaric AGO Trophy committee

For this special edition, more than fifty volunteers joined forces to ensure the success of the day, which brought together more than 200 participants and an equally enthusiastic audience. Over the years, this event has become a true symbol of solidarity and commitment. It illustrates the power of remembrance transmuted into hope and action, enabling research to advance towards new discoveries for the benefit of cancer patients. Thanks to the team's dedication, nearly **80 000 CHF** have been donated to the Foundation to date; an invaluable contribution to the advancement of cancer research. A huge thank you to all the volunteers of the Trophée AGO Association who, year after year, keep this wave of generosity alive for the benefit of research.

# HIGHLIGHTS IN 2024

## JUNE

**Prof. Andrea Alimonti**, a member of our Scientific Board, was awarded the prestigious **Cloëtta Prize 2024**, in recognition of his scientific commitment and outstanding scientific achievements. This prize, awarded by the Prof. Dr. Max Cloëtta Foundation, honors researchers whose work has had a major impact in the biomedical field.

Prof. Andrea Alimonti,
member of our Scientific Board

Prof. Alimonti thus joins two other members of our Scientific Board who have received this significant recognition: Prof. Michael Hall (2003) and Prof. Anne Müller (2021). His invaluable contribution and expertise enrich the ISREC Foundation's mission, which relies on internationally renowned scientists to guide and support cancer research.

## JUNE

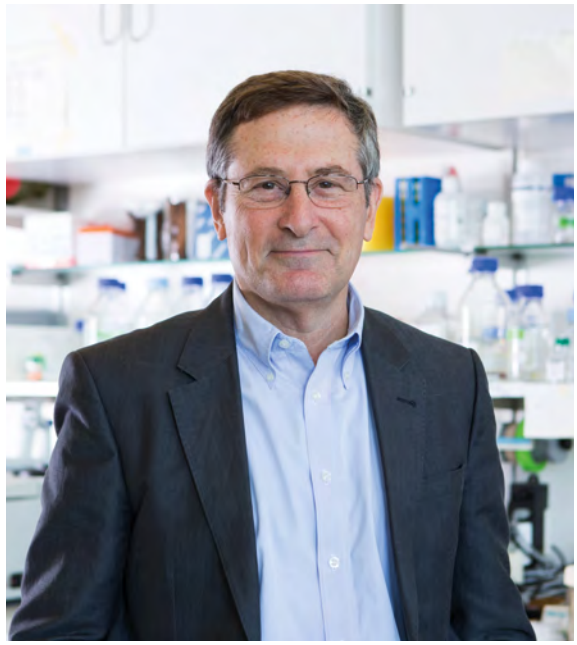
Validation by our Foundation Council of the allocation of **3.4 million CHF to 7 collaborative projects involving clinicians and basic scientists** within the framework of the ISREC Foundation's third call for TANDEM projects (page 22).

## AUGUST

**25th edition of the «Old-Timer Hill Climb» in Corcelles-le-Jorat**. Our sincere thanks go to the Club Team Girard, which has been bringing together owners, riders and lovers of vintage motorcycles for this event since 1998. For the 25th edition of this race, 140 pilots, including teams with sidecars (most of which were built before 1985), gathered on August 24 and 25, 2024. The ISREC Foundation is greatly honored to be among the beneficiaries of this event, which, to date, has donated **48 500 CHF** to cancer research.

## SEPTEMBER

**Prof. Michael N. Hall**, President of our Scientific Board and member of our Foundation Council received the **Balzan Prize 2024** in recognition of his groundbreaking contributions to our understanding of the molecular mechanisms that regulate cell growth and ageing.



Prof. Michael N. Hall, President of our Scientific Board
and member of our Foundation Board

His work has unlocked an important area of research and continues to inspire and guide numerous scientific studies. This prestigious award recognizes a career marked by innovation with a lasting impact on biomedical research.

## SEPTEMBER

On the occasion of its **40th anniversary, Syslog Informatique SA** decided to support the ISREC Foundation by making a donation to cancer research. Instead of simply celebrating, the company wanted to give this event a sense of solidarity by donating to a cause that touches many lives. Many thanks to Sandro Arcioni, director of Syslog Informatique SA, for this generous support!


Sandro Arcioni, director of Syslog Informatique SA, and Aylin Niederberger, administrative and financial director of the ISREC Foundation

## OCTOBER

In celebration of its **commitment over the past 60 years**, the ISREC Foundation held its annual conference under the banner of research and innovation. This event provided an opportunity to review 60 years of scientific progress and to reflect on the future of oncology.

This retrospective was enriched by the captivating presentations of three experts, namely Prof. Johanna Joyce, Prof. Denis Migliorini and Prof. Raphael Gottardo. Their talks shed light on the evolution of cancer research, the most important discoveries of the past decades


Top: A few of the TANDEM 2024 grant recipients
Bottom: Prof. Pierre-Marie Glauser, President of the ISREC Foundation, during his speech at the 2024 annual conference

and the promise of digital health to improve patient care. The evening was also an opportunity to introduce the winners of the 2024 TANDEM grants, the ISREC Foundation's collaborative research program (pages 24 to 30). Their talent and determination embody the hope and energy that drive today's research.

This anniversary was a collective celebration that brought together scientists, donors and partners around a common goal: advancing research to better understand, treat and defeat cancer.

## OCTOBER

Validation by our Foundation Council of the allocation of **800 000 CHF to 2 new TANDEM projects** (pages 31 and 32).

# THE FOUNDATION COUNCIL

The Foundation consists of the following bodies:

## THE FOUNDATION COUNCIL

The Foundation Council is the highest authority of the Foundation. It approves the allocations of resources, appoints its own members, those of the Scientific Board and the Management, as well as the Financial Auditors. It approves the annual budget and the Foundation's accounts.

### PRESIDENCY

1 **Prof. Pierre-Marie Glauser**
Lawyer and professor of tax law at UNIL (University of Lausanne), associate at Oberson Abels SA

### MEMBERS

2 **Claudine Amstein — Vice president**
Independent administrator

3 **Yves Henri Bonzon**
Head investment management, CIO and member of the executive board, Julius Bär

**Prof. Nicolas Demartines** (*until December, 2024)*
General director, CHUV (Centre Hospitalier Universitaire Vaudois)

4 **Prof. Pierre-Yves Dietrich** (*as of June, 2024)*
Oncologist, Hirslanden Clinique des Grangettes

5 **Prof. Dr. Michael N. Hall**
Representative of the Scientific Board, Professor at the Biozentrum, University of Basel

**Bertrand Levrat** (*until June, 2024*)
General director, HUG (Hôpitaux Universitaires de Genève)

6 **Robert Mardini** (*as of October, 2024*)
General Director, HUG (Geneva University Hospitals)

**Prof. Philippe Moreillon** (*until October, 2024*)
Former vice-rector, UNIL (University of Lausanne), professor emeritus

7 **Dr. Thomas W. Paulsen**
Chief financial officer, head of finance and risk division, BCV (Banque Cantonale Vaudoise, Lausanne)

**Prof. Béatrice Schaad** (*until June, 2024*)
Full Professor at the Institute of Humanities in Medicine (UNIL/CHUV)

8 **Dr. Fritz Schiesser**
Lawyer and notary public, former member of the Swiss Council of States, former president of the Foundation Council of the Swiss National Science Foundation (SNSF), former president of the Board of the Swiss Federal Institutes of Technology (ETH Board)

9 **Prof. Didier Trono**
Full professor, GHI (Global Health Institute), EPFL (École Polytechnique Fédérale de Lausanne)

## THE SCIENTIFIC BOARD

The Scientific Board is composed of experts of international renown in various fields of cancer research and is overseen by the Director. They cannot be members of the Foundation Council, with the exception of the president of the Scientific Board, by virtue of his position. The Scientific Board and the ISREC Foundation's Director select the research projects to be funded, and present recommendations to the Foundation Council.

### PRESIDENT

5 **Prof. Dr. Michael N. Hall**
Professor at the Biozentrum, University of Basel

### MEMBERS

10 **Prof. Dr. med. Andrea Alimonti**
Director of the Molecular Oncology Department, Institute of Oncology Research, Bellinzona

**Prof. Fabrice André** (*until June, 2024*)
Research director, in charge of the U981 unit of the INSERM, Medical Oncology Department, Institut Gustave Roussy, Villejuif, France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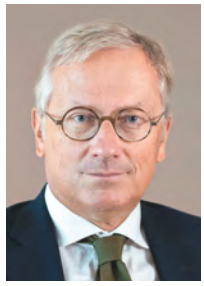
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THE SCIENTIFIC BOARD


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11 **Prof. Peter Johnson**
Professor of medical oncology, Faculty of Medicine, University of Southampton, UK

12 **Prof. Dr. Anne Müller**
Full professor of experimental medicine, Institute for Molecular Cancer Research, University of Zurich

13 **Prof. Dr. Federica Sallusto**
Full professor in medical immunology at the ETH Zurich and the Università della Svizzera italiana (USI), Lugano (joint professorship), member of the Research Council of the Swiss National Science Foundation (SNSF)

## THE MANAGEMENT

Assisted by the Scientific Board, the Management selects and oversees the funded research projects. It develops and recommends a fundraising strategy and carries out the tasks defined by the Foundation Council.

**Prof. Susan M. Gasser**
Director

**Aylin Niederberger**
Administrative and Financial Director

## THE FINANCIAL AUDITORS

The financial auditors, whose duties are determined by law, are nominated by the Foundation Council. They are elected for one year. The 2024 mandate was entrusted to **PricewaterhouseCoopers** in Geneva, a fiduciary company recognized by the Swiss Institute of Certified Accountants and Tax Consultants.

# DONORS

Since 1964, numerous donors have supported our cause through their gifts, subsidies or legacies and contributed to the progress of cancer research.

**We are very grateful and thank each one of them most warmly.**
Among these donors, more than six hundred and sixty appear in our Book of Donors:

## CONTRIBUTIONS OF MORE THAN **1 MILLION FRANCS**

Two anonymous gifts / One anonymous legacy, Lausanne / Lady Elisabeth Ampthill, in Lausanne / Legacy Mrs. Anne B., Lausanne / Mrs. Annette B., Vevey / Mrs. Anne-Laurence B., Préverenges / Legacy Mrs. Wilhelmine B., Lausanne / Biltema Foundation, Amsterdam / Ceres Foundation, Carouge / Mr. Dimitri D., Pully / Mrs. Hilda D., Colombier / Mrs. Yolande de M., Epalinges / Mrs. Johannette G., Lausanne / Göhner Foundation, Zug / Mrs. Jeanne H., Neuchâtel / Mr. Jean-Pierre H., St-Imier / Mrs. Henriette H.-C., Lausanne / Legacy Mr. Hans H., Vufflens-le-Château / Helmut Horten Foundation, Lugano / Legacy Mrs. Hélène I., F - Ville d'Avray / Istanjac Foundation, Triesen / Lardeco Foundation, Vaduz / Lartek Limited, Bermuda / Le Laurier Rose Foundation, Lausanne / Leenaards Foundation, Lausanne / Swiss Cancer League, Bern / Loterie Romande, Lausanne / Legacy Mr. Emile M., Bursins / Legacy Mrs. Marie M., Marin / Nouvelle Cassius Foundation, Vaduz / Mrs. Judith P., Lausanne / Mr. Yves J. P., Verbier / Pestalozzi Foundation, Road Town / Porthos Foundation, Triesen / Mrs. Martine Monique R., Geneva / Legacy Mr. Roland R., Lutry / Mr. Eric S., Neuchâtel / Legacy Mrs. Pierrette S., Nyon / Sevastopoulo Fund, Lausanne / Mr. Marc V., Lausanne / Canton Vaud

## CONTRIBUTIONS BETWEEN **CHF 100 000.–** AND **1 MILLION FRANCS**

Thirty-four anonymous gifts / Legacy Mrs. Yvette A., Port-Valais/Bouveret / Aiuto Foundation, Nyon / Canton Aargau / Mrs. Adelhaid Gertrud B., Hilterfingen / Mrs. Anne B., Préverenges / Mrs. Charlotte B., Romanel / Mrs. Dina Henriette B., Vevey / Mrs. Elise B., Chailly-s/Montreux / Legacy Mrs. Jacqueline B., Paris / Legacy Mrs. Jacqueline B., Rolle / Barend und Geertjen Scheffer Foundation, Lausanne / Canton Bern / Mrs. Anne-Marie C., La Tour-de-Peilz / Mrs. Florence Helen C., La Tour-de-Peilz / Mrs. Jeannette C., Vevey / Mrs. Suzanne C., Prilly / Legacy Mrs. Françoise C. de D., Meinier / José Carreras pour la lutte contre la leucémie Foundation, Meyrin / Copley May Foundation, Geneva / Câbleries et Tréfileries de Cossonay / Ciba-Geigy SA, Basel / Mrs Ariane D., Geneva / Mrs. Ida d'A., Lausanne / Mrs. Catherine D., Montreux / Mrs. Clara D., Montreux / Mr. Damien D., Lausanne / Mr. Henri D., Monaco / Mr. Irmgard D., Locarno / Mr. Marcel D., Lausanne / Mrs. Simone D., Lausanne / Legacy Mrs. Doris Ursula D., St-Sulpice / Legacy Mrs. Marylise D., Echichens / Legacy Mrs. Perdrix D., Montreux / De Ricou Foundation, Pully / Mrs. Elisabeth E., Geneva / Empiris Foundation, Zürich / Echec au cancer de la Broye, Payerne / Mrs. Bertha F., Yverdon / Mrs. Lilia F., Lausanne / Legacy Mrs. Alma Maria F., Petit-Lancy / Legacy Mrs. Aurelia F., Clarens / Legacy Mrs. Emma Germaine F., Orbe / Legacy Mrs. Madeleine F., Morges / Alfred Fischer Foundation, Lausanne / François Guédon Fiduciaire & Gérance SA, Lausanne / Canton Fribourg and Ligue fribourgeoise contre le cancer / Mrs. Andrée Lucienne G., Pully / Mrs. Esmeralda G., Lausanne / Mr. Louis G., Prilly / Legacy Mrs. Aline G., Kirchberg / Legacy Mrs. Antoinette G., Colombier / Legacy Mrs. Claudine G. L., Lausanne / Legacy Mrs. Danielle G., Lutry / Gygi-Beguin Fund, Lausanne / Canton Geneva / Mrs. Elvine H., Montreux / M. Georg Philip H., Leipzig / Mrs. Liise H. / Mr. René H., Lausanne / Heskem Foundation, Vaduz / Hoffman-La Roche & Co, Basel / Mrs. Alice J., Pully / Mrs. Marguerite J.-K., Lausanne / Jacqueline de Cérenville Foundation, Lausanne / Jan Baron Mladota Foundation, Lausanne / Canton Jura / Mrs. Consuela K., Lausanne / Mrs. Laura L., Spanien / Mrs. Marthe L., Lausanne / Mr. Pierre Louis L., Lausanne / Mrs. Yvette L., Vevey / Ligue vaudoise contre le cancer, Lausanne / Municipalité de Lausanne / Mrs. Carmen M., Clarens / Mr. Karl Heinz M., Krienz / Mrs. Lilianne M., Lausanne / Mrs. Marie-Louise M., Corsier / Mrs. Marthe M., Lausanne / Mrs. Odette M., Lausanne / Mr. Roland M., Cugy / Legacy Mrs. Armentina M., Yverdon / Legacy Mr. Emile M., Bursins / Legacy Mrs. Marie M., Vevey / Legacy Mrs. Louisa M., Lausanne / Legacy Mrs. Monique M., Lausanne / Legacy Mrs. Raymonde M., Lausanne / Medic Foundation, Geneva / Migros Genossenschafts-Bund, Zürich / Mrs. Denise Alice N., Neuchâtel / Nirmo Foundation, Triesen / Nestlé SA, Vevey / Canton Neuchâtel / Oiseau Bleu Foundation, Vaduz / Orfeo Foundation, Vaduz / Mrs. Elisabeth P., Neyruz / Mr. Franz P., Coppet / Mrs. Marie-Louise P., Lausanne / Mrs. Marthe P., Lutry / Mr. Pierre P., Estavayer-le-Lac / Legacy Mr. Luis P. M., Rolle / Jacqueline Petit Foundation, Lausanne / Fondation de bienfaisance de la Banque Pictet & Cie, Carouge / Mrs. Louise Q., Renens / Mr. Georges R., Paris / Mrs. Nina R., Pully / Legacy Mrs. Lucette R., Blonay / Legacy Mrs. Suzanne R., Lausanne / The Rose Charitable Trust, United Kingdom / Mr. Edouard-Marcel S., Lausanne / Mrs. Georgette S., Geneva / Mrs. Paulette S., Denens / Mrs. Rosalie S., Montreux / Mr. and Mrs. S.-B., Sierre / Legacy Mrs. Elsa S., Hünibach / Legacy Mrs. Erzsébet S., Lausanne / Legacy Mr. Jean-Paul S., Corcelles / Legacy Mrs. Martha S., Yverdon / Legacy Mrs. Maryse S., Carouge / Legacy Mrs. Valerie S., Servion / Swiss Medical Network, Echandens / Canton St-Gallen / Miss Suzanne-Marie T., Payerne / Michel Tossizza Foundation, Lausanne / Tetra Laval International, Pully / Mrs. Evelyne V., Lausanne / Mrs. Gabriella Maria W., Geneva / Mrs. Henriette W., Lausanne / Mrs. Mona W., Geneva / Mrs. Nina W. Lonay / Prof. Dr h.c. René W. (Castolin SA), St-Sulpice / Canton Valais / Mrs. Gertrud Z., Münchenstein / Mr. Walther Willy Z., Montreux / Canton Zürich

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## CONTRIBUTIONS BETWEEN **CHF 50 000.–** AND **CHF 100 000.–**

Fourteen anonymous gifts / Mrs. Alice A., Moutier / Mrs. Yvette A., Vevey / Mr. Bernard B., Bournens / Mr. Ernesto B., Geneva / Mrs. Germaine B.-R., Aubonne / Mr. Giovanni B., Lausanne / Mrs. Liliane B., Lausanne / Mrs. Marie B., Pully / Mrs. Rachelle B., Montreux / Legacy Mrs. Angelina B., Montreux / Canton Basel-Landschaft / Borel & Barbey, Geneva / Mrs. Alice E. C., Orbe / Mrs. Fernande C., Lausanne / Mr. Marcel C., Lausanne / Mrs. Marie C. and Mr. Bernard P., Saint-Légier-La-Chiésaz / Mrs. Teresa C.-R., Zürich / Mrs. Violette C., Lausanne / Centrale Suisse des Lettres de Gages (Pfandbriefzentrale), Bern / Chafee Foundation, Schaan / Mr. Jean D., Biel / Mrs. Martine D., Lausanne / Mrs. Raymonde D., Morges / Mrs. Fernande D.-A., Les Cullayes / Legacy Mr. Jean D., Peseux / Mrs. Marie E.-B., Crans-près-Céligny / Jules & Irène Ederer-Uehlinger Foundation, Bern / Emouna Foundation / Mrs. Arlette F., Vevey / Mrs. Josette F., Neuchâtel / Legacy Mr. Bernard F., Lausanne / Fabrique de Câbles Electriques, Cortaillod / Mrs. Claudine G., New York / Mrs. Dorothéa G., Lausanne / Mrs. Lidia G., Echallens / Mrs. Liliane G., Aubonne / Mr. Jean-Charles H., Geneva / Mrs. Marie Juliette Simone H., Geneva / Mrs. Renée H., Lausanne / Prof. Gustave J., Zürich / Mrs. Margarete J., Lausanne / Mrs. Marie-Louise J., Renens / Mrs. Hedwige Meinrada L.-G. / Legacy Mrs. Cécile L., Pully / Les Halliers Foundation, Le Mont-sur-Lausanne / Lombard Odier Foundation, Geneva / Cancer league Valais, Sierre / La Suisse Assurances, Lausanne / Mrs. Marianne M., Lausanne / Mrs Patricia M., Basel / Mr. Eugen M.-M., Kilchberg / Nutresco SA, Penthalaz / Mrs. Andrée P., Lausanne / Mrs. Madeleine P., Bulle / Mrs. Etiennette Q. da F., Lausanne / Mrs. Gabrielle R., Aubonne / Mrs. Marianne R.-B.-J., Fleurier / Mrs. Anne-Marie S., Romanel / Legacy Mrs. Marie R., Bremgarten / Legacy Mrs. Denise S., Bussy-Chardonney / Symphasis Foundation, Zürich / Charles Schwab & Co., Inc., San Francisco / Sinpro SA, Lausanne / Elisabetta and Jacques Tabord Foundation, Lausanne / Trophée Ago, Lonay / Mrs. Anne-Marie U., La Chaux-de-Fonds / Mrs. Madeleine V., Les Paccots / Charles Veillon Foundation, Lausanne / Mrs. Corinne W., Lausanne / Mr. Pierre Z., Lausanne / Legacy Mrs. Stella Z., Lausanne

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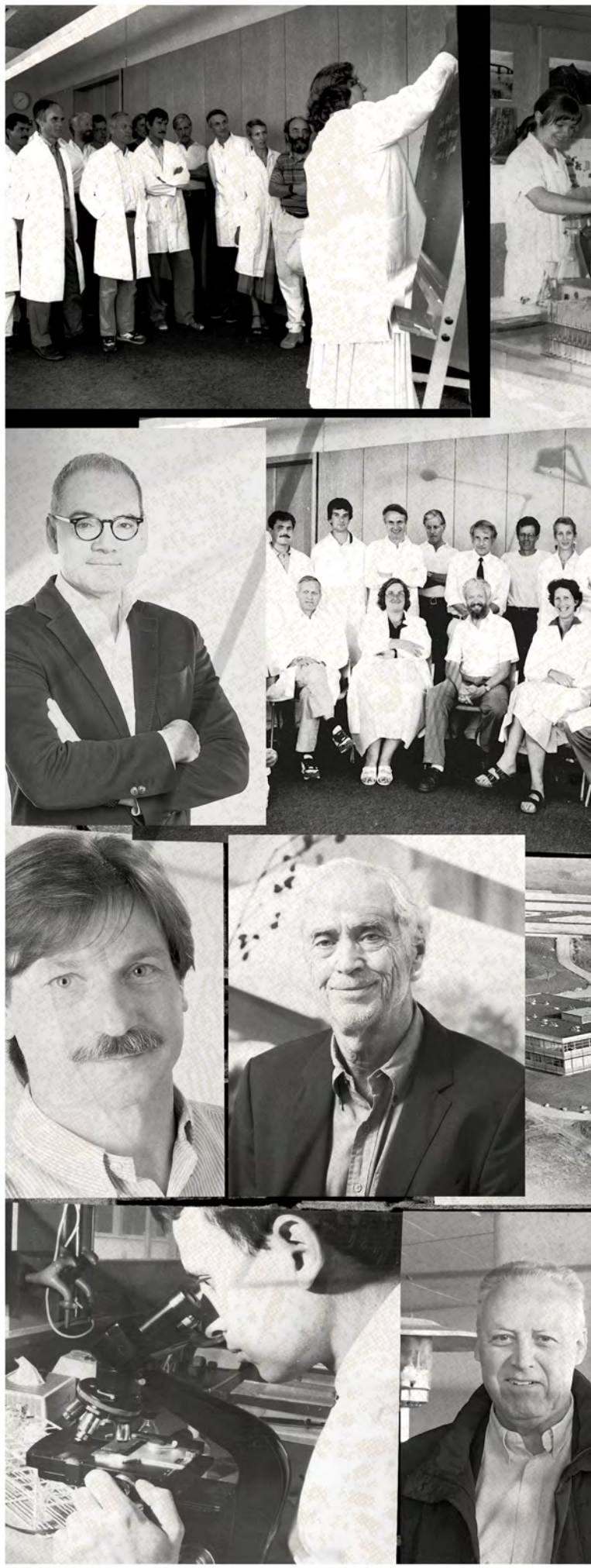

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