

# 2023 YEAR IN REVIEW AND RESEARCH PROGRESS SNAPSHOT



## 50 YEARS OF DISCOVERIES.

A Shared Vision Formed the National Foundation for Cancer Research. Through YOUR support, each day we are getting closer to finding cures to all cancers.

In 1973, the National Foundation for Cancer Research was officially established by Franklin and Tamara Salisbury, together with Dr. Albert Szent-Györgyi. Its mission was crystal clear: to prioritize and fund basic scientific research. Their message, “Basic Cancer Research First,” echoed the vision of Dr. Albert Szent-Györgyi, which has persisted through these last five decades. NFCR embarked on an extraordinary journey, establishing a “Laboratory Without Walls” concept. This approach encouraged collaboration among diverse disciplines of cancer research and fostered regional NFCR project directors, connecting scientists internationally. NFCR recognized tackling the enigma of cancer required an alliance of brilliant minds and a convergence of science from various disciplines.

For half a century, NFCR has been at the forefront of the battle against cancer, driving groundbreaking discoveries in detection, diagnosis, treatment and prevention. In a field where comprehensive, forward-thinking research is often overlooked, NFCR has distinguished itself by prioritizing transformative endeavors, with the goal of curing all types of cancer.

Aligned with our global impact principle, NFCR has established many important strategic partnerships with leading international research institutions, fostering a collaborative platform to convene transformative cancer research programs and innova-

NFCR promoting basic cancer research on a Washington, DC bus in 1984.



Three co-founders of NFCR, Dr. Albert Szent-Györgyi (right), Franklin Salisbury Sr., and Tamara Salisbury.

tive clinical trials. This cooperative effort has accelerated the development of many life-saving cancer drugs, showcasing NFCR’s dedication to making a tangible difference on a global scale.

The early years saw NFCR providing crucial support to Szent-Györgyi and his network of scientists, who utilized electron spin resonance (ESR) to detect free radicals in structural proteins and studied the affinity of tumor cells for certain kinds of free radicals. This pioneering work advanced our understanding of the biochemical processes involved in cancer, laying the groundwork for future breakthroughs and public policy rational and healthy life living for cancer prevention.

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Scientists at the NFCR Annual Scientific Meeting in Woods Hole, Massachusetts in 1984.



Meeting of NFCR scientists with NFCR leadership and donors in Boston, 2023.

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In subsequent years, NFCR’s distinct approach became even more apparent. The foundation prioritized funding for iconoclastic researchers like Szent-Györgyi, who were pushing the boundaries with “blue sky” ideas. NFCR’s vision was, and continues to be, centered around fostering a collaborative and interdisciplinary approach to cancer research. This focus on long-term support and the freedom to explore uncharted territories has been instrumental in driving groundbreaking discoveries and progress in the field of oncology.

All of these breakthrough moments have been made possible by the generous donations from 5.3 million donors. We thank you! It is a testament to the power of collective action and grassroots support in advancing the mission to conquer cancer. ■

## 50 YEARS OF DISCOVERIES

### Key Moments of Impact

- NFCR’s pivotal contributions have advanced the identification of critical oncogenes and tumor suppressor genes, providing the foundational knowledge for targeted therapies and personalized medicine approaches. This area of impact has redefined the way cancer is treated, offering more precise and effective solutions.
- Recognizing early the potential of genomics and proteomics in cancer research, NFCR has played a crucial role in enabling scientists to explore the genetic and proteomic landscape of cancer. This area of impact has unearthed novel therapeutic targets, paving the way for innovative treatment modalities.
- One notable example of NFCR’s impact is seen in Dr. Harold F. Dvorak’s research on vascular endothelial growth factor (VEGF). When Dr. Dvorak discovered this molecule, he faced funding challenges for further studies. Franklin Salisbury’s offer of support in 1980 proved pivotal. This support ultimately led to the identification of VEGF as a protein crucial for blood vessel formation in tumors, laying the foundation for anti-angiogenesis therapies and revolutionizing cancer treatment. NFCR’s steadfast support has been instrumental in unraveling the complexities of tumor angiogenesis for over three decades. By delving into the mechanisms governing blood vessel formation in tumors, NFCR-backed scientists have significantly enhanced our comprehension of the tumor microenvironment. This critical insight has led to the development of several FDA-approved treatments, marking a significant advancement in cancer care.
- In the battle against glioblastoma (GBM), a devastating brain cancer, collaborative efforts from 150 global pioneers across 40 institutions, including Dr. Sujuan Ba, CEO of the National Foundation for Cancer Research, have worked together to launch the Glioblastoma Adaptive Global Innovation Learning Environment (GBM AGILE). Conceived in 2003, this initiative led by Drs. Anna Barker, Webster Cavenee, and W.K. Alfred Yung aimed to elevate GBM patient survival rates significantly. NFCR’s integral role in GBM AGILE aligns with our commitment to impactful collaborative research. As a strategic supporter, NFCR, provided the critically needed seed grants to the initiative from the inception of the program and continues to support Global Coalition for Adaptive Research, the official sponsor for GBM AGILE. GBM AGILE pioneers a paradigm-shifting clinical trial approach, revolutionizing GBM therapy’s evaluation. Unlike traditional trials, it concurrently assesses multiple drugs, utilizing real-time data for dynamic adjustments for patients. This groundbreaking design accelerates drug development, offering newfound hope for GBM patients. Since GBM AGILE was open to recruit patients July 2019 launch, it has screened over 1,500 patients and included six investigational drugs. The impact of GBM AGILE promises transformative strides in GBM treatment – providing new hope to cancer patients.



Your year-end gift is critical for researchers in the lab fighting for cures, in addition to the millions of cancer patients who seek hope for their recovery. Please give as generously as possible.



In honor of GBM AGILE, NFCR President & CEO Dr. Sujuan Ba rang the closing bell at NASDAQ alongside her GCAR colleagues on May 19, 2023.



# The 2023 Global Summit and Award Ceremonies

## for Cancer Research & Entrepreneurship

### AN EVENT THAT COULD CHANGE THE WORLD.

Daring to Explore an Understanding of Cancer as a Disease the Can be Cured!

Collaborative “Team Science” serves as the basis for NFCR’s approach to cancer research.

On October 21st, the 2023 Global Summit united some of the globe’s most preeminent figures in cancer research, oncology care, and entrepreneurship to commemorate five decades of remarkable achievements, all while keeping a vigilant eye on the future and the shared goal of curing cancer.

In this spirit of honoring those who have made a difference, NFCR extended a warm invitation to Dr. Martyn Smith and Dr. Helmut Sies as keynote speakers to kick-off and reflect NFCR’s early years of impact.

As the luminaries of the field of antioxidants and free radicals, Dr. Helmut Sies and Dr. Martyn Smith have made profound contributions to cancer research and prevention. They reflected fondly about their long-term working journey with NFCR and its leadership teams of two generations. Dr. Sies and Dr. Smith were among the early NFCR-funded scientists of the Oxygen Club at UC Berkeley during NFCR’s nascent years. The foundation’s enduring vision, initially articulated by Dr. Albert Szent-Györgyi, remains as vivid today as ever. The commitment to “Basic Cancer Research First” continues to steer NFCR’s course, ensuring its unwavering dedication to advancing pioneering cancer research and enhancing the lives of patients. Their association with NFCR exemplify the foundation’s resolute commitment to driving high-impact cancer research and striving for improved patient outcomes and resonates with the organization’s steadfast

For each gift of \$100 (or more) we will send you a print copy of NFCR’s 50th Anniversary commemorative magazine. This publication highlights the researchers and discoveries that have led to significant breakthroughs in cancer research.



determination to realize a world where cancer is no longer an unconquerable foe.

Professor Isaac Witz of Tel Aviv University, was recognized as the recipient of the prestigious 2023 Albert Szent-Györgyi Prize. His pioneering work, as early as in the 1960s, paved the way for a deeper comprehension of the immune response within the tumor microenvironment, ultimately impacting tumor biology and growth. Professor Isaac Witz’s contributions have led to paradigm- shifting revelations in the world of cancer research. His pioneering work in tumor microenvironment research challenged established beliefs and reshaped our understanding of the intricate relationship between cancer cells and their surroundings.

The 2023 Global Summit for Cancer Research and Entrepreneurship brought together leaders from the entire oncology ecosystem - from academia, clinical care, industry, finance, science, and public policy, each sharing valuable insights and innovations in the fight against cancer. ■



Dr. Monica M. Bertagnolli, NCI Director, Recipient of the 2023 AIM-HI Beacon Award for Women Leaders in Oncology.



Live Broadcast dialog between care advocates, cancer survivors, and researchers.



Dr. Isaac P. Witz, Recipient of the 2023 Szent-Györgyi Prize for Progress in Cancer Research, with Dr. Rakesh Jain and Dr. Sujuan Ba, Co-Chairs of the 2023 Selection Committee.



Drs. Avery Posey, Azra Raza, and Thea Tlsty (left to right) on a Panel Discussion of New Approaches to Cancer Treatments and Prevention.

## RESEARCH PROGRESS UPDATES FROM THE 2023 GLOBAL SUMMIT:



Dr. James Allison, Ph.D., 2018 Nobel laureate, and 2014 Szent-Györgyi Prize winner, opened the morning session of the 2023 Global Summit.

- Discussion on progress made through combination therapies, which have significantly improved patient outcomes in some advanced-stage cancers. Many targets are still being explored that could overcome immune exhaustion and leverage the body's immune system to combat cancer cells, further instilling hope for more effective cancer therapeutics for patients.
- Advancements in single-cell profiling, proteomics, transcriptomics, and metabolomics in a spatial manner, which has enabled a much better understanding of why and how tumors progress.
- The need to run trials that establish treatments in earlier stages, such as those drugs that would be more effective as neoadjuvant drugs and administered between the diagnosis and surgery stages.
- Exploration of "Paradigm-Shifting Research" for cancer prevention, trying to stop the first cell's formation and cancer spreading.
- Progress of The Cancer Genome Atlas (TCGA), which has contributed to better patient stratification and shifted from a morphological to a molecular basis.
- Importance of liquid biopsy components such as CTCs, cfDNA, and sDNA, and how they contribute to early cancer detection and personalized therapies.
- Advancements in spatial profiling every gene in the tumor to better predict responsiveness to mono and combination drug treatments.
- Importance of integrating comprehensive research data to become actionable changes to the standard of care and to expand screening of relevant biomarkers for improved stratification of patients.
- Significance of non-coding RNA, the tumor microenvironment, micro-RNA, and three-dimensional models to better understand tumor biology.

To view a complete collection of sessions, panel discussions, presentations from the 2023 Global Summit, please visit NCFR's Oncology Metaverse online at [www.NCFR.org](http://www.NCFR.org).

## CURING CANCER WON'T JUST HAPPEN.

It's going to take YOUR Support to Continue Funding Critical Research.

More investment is needed in fundamental basic research to better understand cancer and provide for the unmet needs of patients.

Please take a moment to consider supporting NCFR and our research community. Together, we will make cures possible.

Your donation to NCFR is tax deductible and may be eligible for a corporate match from your employer. Please, contact your HR department to inquire or use our handy tool at [www.nfcr.org/matchtool](http://www.nfcr.org/matchtool) to learn of your match eligibility.

Giving can be one time, monthly, or you can consider a legacy gift by naming NCFR in your will or living trust. Many of our supporters name NCFR in their will so that your legacy continues to help future generations in the fight against cancer.

Give online at [www.NCFR.org](http://www.NCFR.org) or simply complete and return the reply card with this mailing to send your gift.

Again, your support is needed, appreciated, tax deductible, and will help save lives through the research you are supporting through NCFR. ■

Also, you can give by scanning the Code from your mobile device camera.



TOGETHER, WE WILL MAKE  
CURES POSSIBLE.