The Mark Foundation for Cancer Research

Annual Report 2023

Building a Global Cancer Research Community

As I stepped onto the stage to open the 2023 Mark Foundation Scientific Symposium last October, I took a moment to look out at the room. It was filled with leading cancer researchers from around the globe—tangible proof of our community's remarkable growth.

When we began The Mark Foundation seven years ago, I didn't quite know what to expect. And I certainly could not predict all that we've already achieved.

Today, I'm inspired by the groundbreaking research our grantees are conducting, the innovative studies and programs underway, and the growing network of philanthropic partners who share our vision. I'm also deeply grateful to our dedicated team led by Ryan and Ray, our brilliant grantees, and the scientific and industry advisors, grant reviewers, and partners who make our work possible.

Thank you for joining us in our mission to break through the limitations of current approaches and achieve new and better treatments and diagnostics. Together, we are rewriting the future of cancer care.

Alex Knaster
Founder

Since we awarded our first grants in the fall of 2017, The Mark Foundation has worked to create and support a global network of scientists collaborating across diverse cancer research fields to transform cancer prevention and treatment. We're proud to present this 2023 Annual Report to showcase all this outstanding community has achieved in the past year.

In 2023, we surpassed a remarkable milestone: **$200 million in total grants** awarded since our inception. This includes grants to over 100 academic institutions across 16 countries, propelling research across a broad range of cancer types and research stages. We're also proud of our venture investments in early-stage cancer diagnostics and therapeutics companies, half of which were built on grantee projects.

The Mark Foundation's approach sets us apart as a leader in cancer research. We don't focus on one single cancer type or disease stage. Instead, we look across the entire cancer research landscape to find the most cutting-edge ideas where our funding can make the critical difference to move the field forward. We enable truly high-risk, high-reward research that standard funding agencies may not otherwise support, and our collaborative approach brings together research teams that span multiple disciplines and countries. Our robust portfolio of grant programs and a grants-to-investments pipeline allow us to follow projects from basic or discovery-stage research to translational research and on to the clinic.

As you read these pages, you'll see inspiring stories, facts, and figures from our dedicated scientific community. But our work is far from complete. As always, we remain focused on our goal: providing lifesaving breakthroughs in cancer care.

Ryan Schoenfeld, PhD
Chief Executive Officer

Raymond N. DuBois, MD, PhD
Executive Chairman of the Board

Enhancing Anti-tumor Immunity Through Multidisciplinary Science

Cancer poses scientific challenges that span disciplines—yet, too often, cancer research has been siloed and narrow in scope.

Real progress demands a different approach: one that encourages scientists to think outside the box and work together to find new ways to look at old problems. That's why The Mark Foundation prioritizes funding multidisciplinary collaborations that elevate team science.

"Through strategic funding, we catalyze pioneering science by creating theme-based synergy," explained Mike Carleton, PhD, senior scientific director at the Foundation.

That approach is paying off at The Mark Foundation Center for Immunotherapy, Immune Signaling, and Radiation at the University of Pennsylvania. One of three globally established Centers, the UPenn Center integrates cancer genomics, bioengineering, and computational biology to explore inflammation's role in cancer. According to Mike, the Center is becoming a "perpetual motion research machine" where fundamental and clinical research reinforce each other, leading to breakthroughs.

Andy Minn, MD, PhD *(credit University of Pennsylvania)*

Biological Riddles and Breakthroughs

The Interferon Paradox

Interferons coordinate our body's inflammation response and play a complex role in cancer treatment. Short exposure to interferons boosts the immune system, but chronic activity can result in immune suppression and help cancer cells evade treatment, limiting the efficacy of cancer immunotherapies for many patients.

Center director Andy Minn, MD, PhD and his team are working to block cancer cells from hijacking this pathway while enhancing the body's natural ability to combat tumors. "This paradox presents a significant challenge yet is incredibly compelling,"
Andy explained.

Researchers at the Center have discovered that chronic interferon signaling can create "inflammatory memory," enabling cancer cells to hide from the immune system. Identifying how these processes occur and how they interact with existing therapies could lead to significant steps forward in cancer treatment.

One such step was recently described by Andy and his colleagues in the June 2024 issue of *Science*. The UPenn team employed a seemingly counterintuitive approach—combining anti-PD1 immunotherapy, which triggers an interferon response, with a type of drug called a JAK inhibitor, known to suppress interferon responses.

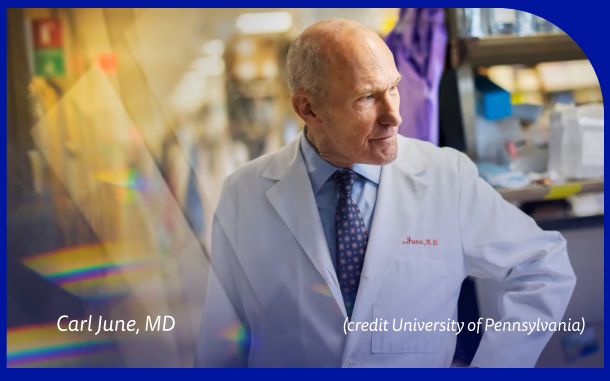
In metastatic lung cancer patients who did not respond to initial anti-PD1 monotherapy, the addition of a JAK inhibitor promoted CD8 T cell plasticity and improved clinical response to anti-PD1. Understanding the mechanism(s) of JAK inhibitor enhancement of anti-tumor immunity and any impact on inflammatory memory are areas currently under investigation.

FLASH Radiation: A New Frontier

The Center has also made groundbreaking strides in FLASH radiation, a treatment modality that delivers several weeks' worth of radiation in a few seconds. FLASH radiation is equally effective as traditional radiation but less toxic, possibly due to its impact on acute vs. chronic interferon induction. Understanding how FLASH radiation activates interferons could revolutionize cancer treatment by reducing treatment side effects and accelerating recovery. Constantinos Koumenis, PhD, a professor of radiation therapy at Penn, recently received an NIH grant to expand his FLASH radiation studies, illustrating the ripple effect of Mark Foundation funding.

CAR T-cell Therapy: A Collaborative Triumph

Another cornerstone of The Center's innovation is pioneering work by Carl June, MD, to advance CAR T-cell therapies: cancer treatments in which a patient's immune cells are engineered to recognize and attack cancer cells.



Carl June, MD *(credit University of Pennsylvania)*

With Mark Foundation support, Carl's team recently partnered with Constantinos to combine CAR T-cell therapy with radiation.

Before they received funding from the Mark Foundation, Carl had never collaborated with Constantinos, despite the fact that they worked in neighboring labs for a decade.

"Support from The Mark Foundation helps us get people out of their own foxholes," he said.

Cultivating Innovation and Community

The Center's collaborative culture drives cutting-edge science at the intersection of cancer radiation therapies, inflammation, and the immune system. Its work spans research groups and institutions, and the impacts are already far-reaching.

"The Mark Foundation University of Pennsylvania Center doesn't just enhance collaborations within Penn," said Mike. "It's about extending knowledge to trigger real-world applications that improve lives."

A recent *Cancer Cell* publication by the MFCIIR, Memorial Sloan Kettering Cancer Center, the European Molecular Biology Laboratory, the Cancer UK Cambridge Institute, and AstraZeneca shows this ethos in action. Together, the researchers demonstrated a link between resistance-associated interferon-stimulated genes and immune cell exhaustion in non-small cell lung cancer, paving the way for novel approaches to boost anti-tumor immunity.

The Center's achievements in just five years are remarkable—but they're just the start. On the horizon? Projects aimed at overcoming drug resistance and preventing cancer cells from exploiting inflammation.

Supporting Scientists Throughout the Research Lifecycle: Dan Landau and C2i Genomics

Transformative breakthroughs often start as unconventional ideas—but getting the funding to turn these ideas into reality is a significant hurdle.

That's where The Mark Foundation comes in. Unlike most funders, the Foundation supports researchers like Dan Landau, MD, PhD, of Weill Cornell Medicine and the New York Genome Center throughout the innovation process, from exploratory grants to venture investments.

Dan Landau, PhD

Eight years ago, Dan proposed a new approach to detecting minimal residual disease (MRD) using liquid biopsy technology and whole genome sequencing. Early detection of disease recurrence is critical to improving patient outcomes but has been a thorny challenge in cancer treatment.

This ambitious project, which Dan says some thought "crazy," was risky for a young investigator with no prior track record in this area. But The Mark Foundation saw its potential and offered Landau one of the very first ASPIRE Awards.

"This grant was more than just financial backing," said Mark Foundation CEO Ryan Schoenfeld, PhD. "It was a vote of confidence in his visionary approach."

For Dan, The Mark Foundation's willingness to take a chance on an emerging investigator with a bold idea was transformative.

"They flipped the script and wanted a conversation," said Dan. "They show that they care."

C2i Genomics

Transforming Ideas into Impact: C2i Genomics

With funding from The Mark Foundation in place, Dan's bold idea quickly resulted in a *Nature Medicine* publication and several patent filings. In 2019, Landau created C2i Genomics to commercialize the work, and through its venture arm, the Foundation co-invested in C2i's $12 million Series A financing. In addition to funding, The Mark Foundation offered C2i ongoing support, strategic advice, and industry connections.

"The Mark Foundation team was deeply attuned to the details," noted Ezra Sofer, co-founder and former CEO of C2i. "As board observers, their insights went beyond the investment."

C2i quickly forged global clinical collaborations and garnered widespread attention (and an additional $100 million in investment) for its artificial intelligence-driven, whole-genome MRD detection platform, which requires only a small blood sample. In 2022, their first project received the CE mark, marketing approval for the EU.

Just two years later, Veracyte acquired the startup, expanding its technology to a much broader market. The Mark Foundation will reinvest its returns into future research awards and venture investments.

An Ongoing Partnership

As Dan continues his groundbreaking work, The Mark Foundation remains a steadfast partner. In 2020, he received a second ASPIRE Award in collaboration with Claus Andersen, PhD, of Aarhus University, Denmark, for a liquid biopsy project to study noninvasive screening and early detection in colorectal cancer. That work originated in a 2019 Mark Foundation Workshop. In 2022, he received an Emerging Leader Award (ELA) to support his new research on mutated clones, hidden cell populations with identical genetic mutations, which will offer fresh insights into the earliest stages of cancer formation.

"Whatever comes next, one thing is clear: Dan and C2i's remarkable success proves the value of the Foundation's unique approach," said Ryan.

From Workshops to Grants: How The Mark Foundation Fosters Cutting-Edge Collaborations

Samuel Aparicio, BM, BCh, PhD, FRCPath, FRSC, University of British Columbia and New York Genome Center

In recent years, cancer researchers have made significant leaps in their understanding of cancer and its treatment. Yet game-changing treatments have been slow to follow—in part because traditional approaches to research are often siloed and fragmented.

To foster the cross-disciplinary collaborations that cancer's complexity demands, we've pioneered a program to fund research grants that are inspired by discussion and interactions at interdisciplinary workshops on emerging topics in cancer research. This initiative, first launched in 2019, brings together leading researchers for freewheeling discussions that spark innovative approaches and accelerate discoveries.

"Our workshops bridge funding gaps and bring together experts from diverse fields who might not typically interact," explains Becky Bish, head of discovery and preclinical research at The Mark Foundation. "This creates a space where fresh, innovative ideas can flourish."

Uncovering New Approaches to Complex Challenges

Chromosomal instability has been recognized as a hallmark of cancer for more than 50 years—but the causes, functional outcomes, and therapeutic vulnerabilities of these changes have long eluded researchers. In 2023, The Mark Foundation hosted a workshop titled Chromosomal Instability: Mechanisms, Measures, Therapies at the Barts Cancer Institute in London, drawing an international cohort of researchers and clinicians with expertise spanning molecular biology, genetics, genomics, bioinformatics, and clinical oncology.

Over the course of two days, participants dove deep into the mechanisms of chromosomal instability, exploring DNA repair defects, cell cycle alterations, and mitotic process disruptions, as well as the impact of chromosomal instability on tumor heterogeneity, therapy resistance, and disease prognosis.

"This workshop brought together experimental and computational perspectives that set the foundation for significant future research," said Becky.

The researchers identified new areas for investigation as well as potential strategies to target vulnerabilities induced by chromosomal instability in tumors, work that could significantly expand our understanding of cancer biology and improve cancer management.

Driving Impact through Exclusive Funding Opportunities

Even the most transformative ideas won't save lives if they aren't tested and implemented in the real world. That's why The Mark Foundation invites workshop participants to apply for exclusive funding opportunities.

"This approach encourages real-time involvement, commitment, and collaboration," explained Becky, "and we've seen incredible projects emerge as a result."

A 2022 workshop on pediatric brain tumors held at the Banbury Center at Cold Spring Harbor Laboratory, for example, led to ASPIRE grants for two research teams. The projects, which focus on childhood medulloblastoma and glioma, bring together experts from the University of Michigan, Ann Arbor, Texas Children's Hospital, Nationwide Children's Hospital, and Seattle Children's Research Hospital.

New collaborations among investigators who attended last year's chromosomal instability workshop are currently under consideration for ASPIRE Awards, and The Mark Foundation plans to continue to host two to three workshops each year.

Miriam Merad, MD, PhD, Icahn School of Medicine at Mount Sinai

Workshops to Date

- Artificial Intelligence & Cancer Research (2019)
- Bringing Liquid Biopsies to the Clinic for Cancer Care (2019)
- Advancing Innovations in Immuno-Oncology (2019)
- Induced Proximity Strategies for Cancer Therapeutics (2020)
- Predicting Clinical Success: Preclinical Modeling in Cancer (2022)
- Pediatric Brain Tumors (2022)
- Aging and Cancer (2022)
- Chromosomal Instability (2023)
- Precision Targeting of the Tumor Ecosystem (2024)

Advancing Team Science with the Endeavor Award

Science depends on teamwork—and the strongest teams aren't always found in a single department or institution.

That's why the Mark Foundation's Endeavor Award is designed explicitly for collaborative research projects that bring together investigators with diverse backgrounds and perspectives. Offering $3 million in funding over three years, the award is open to teams of three or more scientists pursuing basic, translational, or clinical research anywhere in the world.

Fast Facts

- 11 Endeavor awards presented since 2020
- $33 million+ in grant funding awarded
- 19 institutions represented
- 48 Endeavor team members to date

"Accelerating progress in the fight against cancer will require a multidisciplinary approach," says Ryan Schoenfeld, PhD, CEO of The Mark Foundation. "The Endeavor Awards empower teams to integrate diverse data and methods, generating discoveries that surpass what individual labs could achieve alone."

In 2023, The Mark Foundation presented four Endeavor Awards after a rigorous selection process that brought in 150 applications. The awards went to the following projects:

Harnessing Senescence Biology for Immuno-oncology

Scott Lowe, PhD, Julio Garcia-Aguilar, MD, Dana Pe'er, PhD, Paul Romesser, MD, Michel Sadelain, MD, PhD, Andrea Schietinger, PhD
Memorial Sloan Kettering Cancer Center

Immuno-oncology offers powerful tools for cancer treatment, but many patients do not respond to standard approaches. This Endeavor team is exploring how inducing cellular senescence, a stress response that halts cell cycle progression and reshapes the tissue environment in tumor cells, can boost the effectiveness of immuno-oncology treatments for a broader range of patients.

Inflammatory Drivers of the Obesity-Cancer Connection

Jeffrey Rathmell, PhD, Alyssa Hasty, PhD, Liza Makowski, PhD, Kathryn Wellen, PhD
Vanderbilt University, University of Tennessee, University of Pennsylvania

Obesity, immune function, and cancer have a complex relationship—for example, while obesity is a significant risk factor for many cancers, obese patients often respond better to immune checkpoint therapies. This Endeavor team will explore this relationship by studying how obesity influences tumor development and responses to immunotherapy. Ultimately, they aim to identify key mechanisms and potential therapeutic targets that will improve cancer treatment for both obese and non-obese patients.

Engineering Multi-modal Immunotherapies Against Small-cell Neuroendocrine Tumors

Julien Sage, PhD, K. Christopher Garcia, PhD, Rogelio Hernández-López, PhD, Crystal Mackall, MD
Stanford University

Small-cell neuroendocrine tumors, which can arise in various tissues including the breast, prostate, pancreas, and bladder, pose a daunting challenge in cancer treatment since they often resist traditional therapies. This Endeavor team plans to use a multi-armed approach to develop new therapies that unlock the immune system's full potential to combat these aggressive tumors.

Personalized T Cell-directed Cancer Immunotherapy

Catherine Wu, MD, Fei Chen, PhD, Nir Hacohen, PhD
Dana-Farber Cancer Institute and The Broad Institute

T cell therapies for cancer are a powerful tool with significant limitations. This Endeavor team aims to improve these treatments by identifying key tumor antigens and T cell receptors, understanding how T cells interact with the tumor environment, and optimizing T cell function for effective tumor control. Drawing on cutting-edge technologies, the team will use these insights to create highly effective personalized and shared therapies for colorectal and ovarian cancer.

Partners Spotlight

Understanding the Links Between Aging and Cancer

There's one cancer risk factor that outweighs all others: age. Ninety percent of cancer diagnoses and deaths occur in people over the age of 50—yet research on the links between aging and cancer remains underfunded, and older patients are routinely underrepresented in clinical trials. Plus, older patients have higher levels of comorbidities and experience increased side effects from many current treatments, posing additional clinical challenges.

SAMUEL WAXMAN CANCER RESEARCH FOUNDATION

To address this critical gap in understanding, The Mark Foundation for Cancer Research has joined forces with The Samuel Waxman Cancer Research Foundation, with additional support from The Melanoma Research Alliance. The partnership, launched with a workshop that brought together leading scientists to explore unanswered questions in the field, is now funding three collaborative projects focused on aging and cancer.

"It is crucial to debunk the notion that cancer is a natural consequence of aging and instead invest in specific aging and cancer research that will improve prevention strategies and develop less toxic treatments to benefit all patients," said Samuel Waxman, MD, CEO and founder of the Samuel Waxman Cancer Research Foundation.

"With life expectancies increasing around the world, the incidence of cancer is rising and expected to grow exponentially. This will take an enormous toll on governments, health care infrastructure, and people's livelihoods," added Ryan Schoenfeld, PhD, CEO of The Mark Foundation for Cancer Research. "Working together with our partners and grantees, we are confident we can deliver results that will reduce the risk of cancer that comes with aging and improve overall patient outcomes."

Teaming Up with Takeda

The pharmaceutical industry, academia, and nonprofits each plays a critical role in cancer research—but to accelerate the discovery and development of cancer treatments, they need to work in tandem.

In 2023, The Mark Foundation launched a pioneering alliance with Takeda, leveraging the Foundation's global network of leading academic scientists and rigorous project evaluation and funding process as well as Takeda's record of success developing life-saving cancer treatments.

The collaboration focuses on a promising new area of research: targeting the tumor microenvironment—the noncancerous cells that surround the tumor and contribute to its formation and progression. This approach could unlock effective new therapies that are precisely tailored to the patient's specific tumor.

In early 2024, Takeda funded an exclusive Mark Foundation workshop, Precision Targeting of the Tumor Ecosystem. The company is now co-funding an external research project based on a new collaboration and novel approach developed at the workshop.

"Takeda is the ideal partner for our first alliance with a pharmaceutical company," noted Ryan. "When exciting discoveries arise from this research project, we have a partner on board to help dramatically accelerate the innovations to reach patients."

Takeda

Kathy Seidl, PhD, head of Takeda's Oncology Drug Discovery Unit, added, "We are thrilled to work with The Mark Foundation and their network of top cancer researchers, some of whom are already on the road to validating novel targets in this emerging cross-section of cancer biology and the tumor microenvironment. The Mark Foundation's expertise in attracting and reviewing cutting-edge proposals gives them a compass pointing toward the next big breakthroughs in cancer therapeutics. Our missions are shared: to advance innovative academic discoveries from the bench to patient impact."

Our Impact

Since our launch in 2017, The Mark Foundation has awarded...

Over **$220** million in research grants

To over **100** academic institutions

In **16** countries worldwide

And we have invested...

In **9** early-stage cancer companies

4 of which have transitioned from grantee projects

Resulting in more than...

850
Publications

32
New companies

$125M
Follow-on research funding

$1.3B
Capital raised by new companies

59
New inventions

13
New interventional trials

Five Years of Emerging Leaders

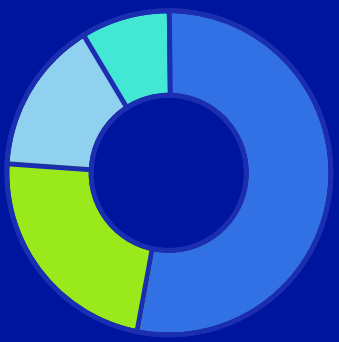
Emerging Leader Award

The Mark Foundation launched its first award program, the Emerging Leader Award, in 2018 to support innovative cancer research from the next generation of leaders. These grants are awarded to outstanding early career investigators to support high-impact, high-risk projects that are distinct from their current research portfolio. On its fifth anniversary, we celebrate the successes and impact that have stemmed from this inaugural program.

$29M Over 5 Years

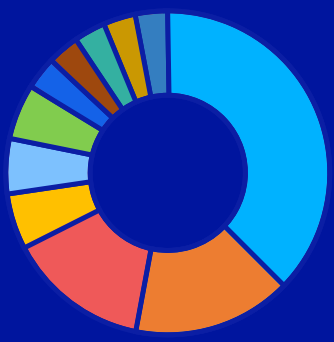
34 Awards

24 Institutions



ELA Research Areas

PERCENTAGE	CATEGORY
53%	Translational science
24%	Basic research
15%	Technology innovation
9%	Chemical biology



ELA Tumor Types

PERCENTAGE	CANCER TYPE
38%	All cancer types
15%	Blood cancers
15%	Brain cancer
6%	Breast cancer
6%	Lung cancer
6%	Melanoma
3%	Colorectal cancer
3%	Liver cancer
3%	Ovarian cancer
3%	Pancreatic cancer
3%	Prostate cancer

Scientific Symposium 2023

In October 2023, more than 150 scientists from around the world gathered in New York City for the fourth Mark Foundation Scientific Symposium. The event featured dynamic presentations and panel discussions on cutting-edge topics in cancer research, highlighting the groundbreaking work of scientists supported by the foundation's grant programs and venture investments.

Mark Foundation CEO Ryan Schoenfeld, PhD opens the Scientific Symposium 2023

Keynote speaker Charles Swanton, MBPhD, FRCP, FMedSci, FAACR, FRS, of The Francis Crick Institute and University College of London Cancer Institute, showcased his Mark Foundation-funded research revealing the link between air pollution and lung cancer development.

Expert panels also tackled critical issues including accelerating drug discovery for rare cancers and strategies for conquering the deadliest forms of the disease.

Yvonne Chen, PhD, Engineering Next-Generation T Cells for Cancer Immunotherapy presentation

"The groundbreaking science presented at the '23 Symposium was truly inspiring," noted Mark Foundation CEO Ryan Schoenfeld, PhD. "The event also offered invaluable networking and collaboration opportunities to the exceptional researchers within our global community."

During the Symposium, Ross Levine, MD, chair of the Mark Foundation's Scientific Advisory Committee, announced the winners of the 2023 Mark Foundation Endeavor Awards. These awards will provide a total of $12 million to four multidisciplinary teams of scientists spanning seven institutions. Their projects address a range of urgent challenges in cancer treatment, ranging from the development of more effective T-cell-directed immunotherapies to the complex interplay between obesity, the immune system, and cancer.

"Our Symposium reflects The Mark Foundation community's tremendous impact," said Ray DuBois, MD, PhD, chair of The Mark Foundation's board. "We saw amazing science resulting from our funding, which will help advance lifesaving breakthroughs in cancer care."

Curing the Deadliest Cancers panel discussion

Charles Swanton, MBPhD, FRCP, FMedSci, FAACR, FRS, Keynote:Mechanisms of Action and Inflammatory Axis for Air Pollution Induced Non-Small Cell Lung Cancer


The Mark Foundation team at the Scientific Symposium '23

Our Team

Raymond N. DuBois, MD, PhD
EXECUTIVE CHAIRMAN OF THE BOARD

Ryan Schoenfeld, PhD
CHIEF EXECUTIVE OFFICER

Becky Bish, PhD
HEAD OF DISCOVERY AND PRECLINICAL RESEARCH

Michael Carleton, PhD
SENIOR SCIENTIFIC DIRECTOR

Amy Fehir
HEAD OF DEVELOPMENT

Ian Lesser
DIRECTOR OF FINANCE AND ADMINISTRATION

Janice Lin, PhD
PORTFOLIO MANAGER, RESEARCH & INVESTMENTS

Rebecca Liu, PhD
DIRECTOR, GRANTS ADMINISTRATION

Rob Magin, PhD
SCIENTIFIC DIRECTOR

Scientific Advisory Committee

Ross Levine, MD (Chair)
MEMORIAL SLOAN KETTERING CANCER CENTER

Scott Armstrong, MD, PhD
DANA-FARBER CANCER INSTITUTE

Catherine Bollard, MBChB, MD
CHILDREN'S NATIONAL HEALTH SYSTEM

Sarah-Jane Dawson, MBBS, FRACP, PhD
PETER MACCALLUM CANCER CENTRE AND CENTRE FOR CANCER RESEARCH UNIVERSITY OF MELBOURNE

Johanna Joyce, PhD
UNIVERSITY OF LAUSANNE, SWITZERLAND AND LUDWIG INSTITUTE FOR CANCER RESEARCH

Elaine Mardis, PhD
NATIONWIDE CHILDREN'S HOSPITAL INSTITUTE FOR GENOMIC MEDICINE

Daniel Nomura, PhD
UNIVERSITY OF CALIFORNIA, BERKELEY

Charles Swanton, MBPhD, FCRP, FMedSci, FAACR, FRS
THE FRANCIS CRICK INSTITUTE AND UNIVERSITY COLLEGE LONDON CANCER INSTITUTE

E. John Wherry, PhD
UNIVERSITY OF PENNSYLVANIA PERELMAN SCHOOL OF MEDICINE

THANK YOU TO OUR FORMER MEMBERS FOR THEIR INVALUABLE SERVICE AND EXPERTISE ADVANCING OUR MISSION.

Curt Civin, MD
UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE

Jeroen Roose, PhD
UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Industry Advisory Committee

Hans Bitter, PhD
MOMA THERAPEUTICS

Pamela Carroll, PhD
ISOMORPHIC LABS

Dan Hicklin, PhD
WEREWOLF THERAPEUTICS

Markus Renschler, MD
CYTEIR THERAPEUTICS

Wendy Young, PhD
GOOGLE VENTURES

Board of Directors

Alex Knaster
FOUNDER

Raymond N. DuBois, MD, PhD
MUSC HOLLINGS CANCER CENTER

Ross Levine, MD
MEMORIAL SLOAN KETTERING CANCER CENTER

Nicola Mendelsohn CBE
META

Paul Pospisil, PhD
KORN FERRY

Otmar D. Wiestler, MD
HELMHOLTZ ASSOCIATION

We were honored to welcome Nicola Mendelsohn CBE, Head of Global Business Group at Meta, and Otmar Wiestler, MD, President of the Helmholtz Association, Germany's largest scientific organization, to The Mark Foundation Board of Directors in 2023.

With Nicola's sharp business acumen and her personal experience as a cancer patient, and with Otmar's experience running one of the world's leading cancer institutions, their leadership will help the Foundation advance high-impact cancer research, expand our funding capabilities, forge more global partnerships, and guide new scientific research breakthroughs.

Financials

Per the audited financial statements.

Statement of Financial Position

DECEMBER 31

ASSETS

	2023	2022
Cash and cash equivalents	$ 22,361,365	$ 19,203,191
Contributions receivable, net	62,373,066	60,000,000
Accrued interest receivable	30,951	42,342
Investments	14,916,600	26,541,032
Notes receivable, net	3,029,739	2,860,450
Prepaid expenses and other assets	105,431	161,112
Right-of-use asset – operating lease	1,220,896	1,557,446
Capitalized software, net	204,191	19,272
Property and equipment, net	95,170	112,526
Security deposit	154,979	154,979
Total Assets	**$104,492,388**	**$110,652,350**

LIABILITIES AND NET ASSETS

Accounts payable and accrued expenses	$ 625,207	$ 520,030
Grants payable, net	18,102,751	25,951,419
Lease liability	1,287,461	1,636,518
Total Liabilities	**20,015,419**	**28,107,967**

NET ASSETS

Without donor restrictions	$ 80,853,903	$ 81,544,383
With donor restrictions	3,623,066	1,000,000
Total Net Assets	**84,476,969**	**82,544,383**
Total Liabilities And Net Assets	**$104,492,388**	**$110,652,350**

SUPPORT AND REVENUE

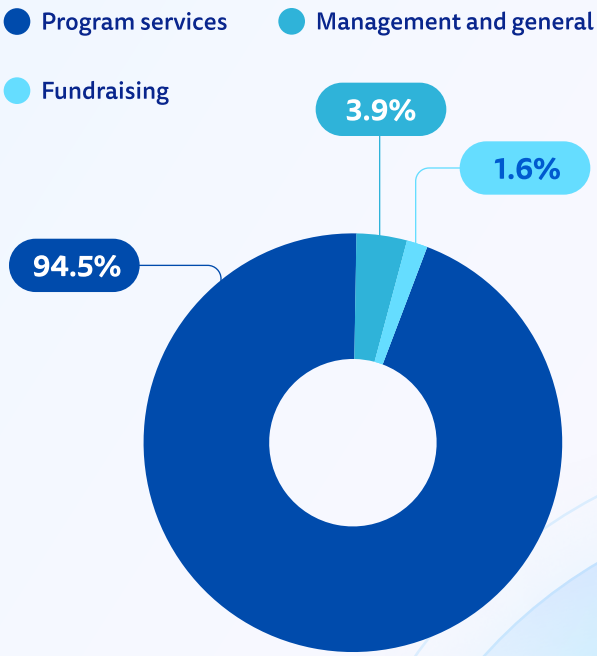
Contributions of financial assets	$ 39,897,754
Contributions of nonfinancial assets	26,400
Investment loss, net	(3,436,967)
Foreign exchange gain (loss)	9,740
Loss on disposal of property and equipment	(4,901)
Total support and revenue	**$36,492,026**

EXPENSES

Program services	$ 32,649,433*
Management and general	1,339,004
Fundraising	571,003
Total expenses	**$34,559,440**

* includes $29,938,381 in grant awards

EXPENSES BY CATEGORY



New grants signed in 2023

ASPIRE Awards

- Nir London, Weizmann Institute of Science (Israel), "Chemical repair of an oncogenic mutation in p53"
- Jun Wang & Iannis Aifantis, New York University, "Therapeutic antibodies targeting antigen presentation inhibitors for immunotherapy of cancer"
- Sriram Venneti, University of Michigan, "Defining pre-cancerous potential of Persistent Rhombic Lip (PeRL) to develop biomarkers for Group 3/4 Medulloblastoma"
- Owen Sansom, Beatson Institute (UK), "Defining the origin, evolution and therapeutic vulnerabilities of metaplastic colorectal cancer"
- Thomas Walz & Ryan Notti, Rockefeller University, "Structural biochemistry of T-cell receptor activation"
- Andrea Ventura, Memorial Sloan Kettering Cancer Center, "Defining the roles of ecDNAs in cancer initiation and progression"
- Jim Olson & Surojit Sarkar, Seattle Children's Research Institute, "PD-L1 bispecific & CXCL10 armored CARs for diffuse midline gliomas"
- Courtney Hodges & Damian Young, Baylor College of Medicine; Nate Hathaway, University of North Carolina at Chapel Hill, "Chemical-induced proximity for control of STAT transcription factor networks"
- David Allman, University of Pennsylvania, "Survival pathways in multiple myeloma"
- Madhav Dhodapkar, Emory University, "Understanding and targeting microbial triggers for myeloma"
- Christina Woo, Harvard University, "Discovery and diversion of E3 ligases that recognize and remove damaged proteins in cancer"
- Darrell Irvine, Massachusetts Institute of Technology, "Induction of tumor-eradicating systemic immunity via leukocyte-targeted cytokine therapy"
- Jedd Wolchok & Taha Merghoub, Weill Cornell Medicine, "Integration of novel RAS inhibitors with immune based therapies to enhance therapeutic efficacy"
- Regina Barzilay & Tyler Jacks, Massachusetts Institute of Technology, "AI-driven modeling of T cell receptors"

ASPIRE II Awards

- Charles Swanton, Francis Crick Institute (UK); Sherene Loi, Peter MacCallum Cancer Centre (Australia), "Tumour promotion and protection"
- Stephen Jackson, University of Cambridge (UK), "Dissecting molecular mechanism(s) of ATR-inhibitor and CHK1-inhibitor sensitivity and resistance"
- Bennie Lemmens & Jiri Bartek, Karolinska Institutet (Sweden), "Redefining cancer drug resistance and replication timing at nucleotide and nanoscale resolution"

Emerging Leader Awards

- Brett Freudenthal, University of Kansas Medical Center, "Ribonucleotide processing in telomere maintenance and integrity"
- Aaron Ring, Fred Hutchinson Cancer Center, "Decoding the autoantibody 'reactome' in cancer immunotherapy"
- Amy Moran, Oregon Health & Science University, "Mechanisms of androgen mediated immune suppression"
- Edward Chouchani, Dana-Farber Cancer Institute, "Defining the protein regulome targeted by lactate and other central carbon oncometabolites"
- Paul Northcott, St. Jude Children's Research Hospital, "Dissecting photoreceptor lineage identity as a tumorigenic vulnerability in pediatric cancer"

Endeavor Awards

- Scott Lowe, Julio Garcia-Aguilar, Paul Romesser, Michel Sadelain, Andrea Schietinger & Dana Pe'er, Memorial Sloan Kettering Cancer Center, "Harnessing senescence biology for immune oncology"
- Julien Sage, Chris Garcia, Crystal Mackall & Rogelio Hernández-López, Stanford University, "Engineering multimodal immunotherapies against small-cell neuroendocrine tumors"
- Catherine Wu, Dana-Farber Cancer Institute; Fei Chen & Nir Hacohen, Broad Institute, "Personalized T cell-directed cancer immunotherapy"
- Jeffrey Rathmell & Alyssa Hasty, Vanderbilt University; Liza Makowski, University of Tennessee; Kathryn Wellen, University of Pennsylvania, "Inflammatory drivers of the obesity-cancer connection"

Momentum Fellowships

- Anand Divakaran, University of California, Berkeley, "Targeted epigenome modification platform"
- Anna-Marie Finger, University of California, San Francisco, "NextGen organoids – towards understanding cellular crosstalk in metastatic cancer"
- MinJung Kim, University of Maryland, Baltimore, "Roles of SIX1-GATA1-DACH1 interactions in acute myeloid leukemia"
- Kevin Ying, Nationwide Children's Hospital, "Genomic characterization of recurrent high-risk neuroblastoma"
- Hannah Kinoshita, Children's National Hospital, "Multi-antigen specific T cells post-hematopoietic stem cell transplant to enhance anti-leukemia and anti-viral immunity in vivo"
- Shin Ngiow, University of Pennsylvania, "Investigating the mechanisms of cotargeting PD1 and LAG3 for immunotherapy"

- Inés Maestre, Memorial Sloan Kettering Cancer Center, "Elucidating the effects of inflammation and aging on clonal hematopoiesis"
- Pablo Freire, Dana-Farber Cancer Institute, "A novel class of cis-regulatory element bound by menin drives the expression of lineage-restricted promoters"
- Thang DoCong, University of California, Berkeley, "Discovering rational discovery strategies for degrading cancer-driving transcription factors"
- Vera Tiedje, Memorial Sloan Kettering Cancer Center, "The role of Tet2-mutant clonal hematopoiesis in BRAF-V600E-driven anaplastic thyroid cancer"
- Stephanie Gomez, Children's National Hospital, "Targeting apoptotic viral mimicry for the treatment of relapsed/refractory pediatric brain tumors"
- Elizabeth Garfinkle, Nationwide Children's Hospital, "Mapping spatial heterogeneity of the tumor immune microenvironment and its contribution to immune evasion in pediatric rhabdoid tumors"
- Júlia Matas, Peter MacCallum Cancer Centre (Australia), "Unravelling non-genetic mechanisms of tumour evolution using real-time ctDNA analysis"

Partnerships

- With Damon Runyon Cancer Research Foundation – Physician Scientist Training Award to Nicole Cruz, Rockefeller University, "Understanding the role of KMT2D in MLL-AF9 acute myeloid leukemia"
- With Gabrielle's Angel Foundation for Cancer Research:
  - Daniel Herranz, Rutgers University; David Dominguez-Sola, Icahn School of Medicine at Mount Sinai, "Chromatin remodeling INO80 complex as targeted therapeutics platform in heme malignancies"
  - Jeffrey Magee, Grant Challen & Stephen Sykes, Washington University in St. Louis, "Epigenetic and metabolic vulnerabilities in high-risk pediatric acute myeloid leukemia"
- With Samuel Waxman Cancer Research Foundation & Melanoma Research Allinace:
  - Julio Aguirre-Ghiso, Albert Einstein College of Medicine; Ross Levine, Memorial Sloan Kettering Cancer Center, "Age-related clonal hematopoiesis as a driver of breast cancer awakening and metastatic relapse"
  - Sandra McAllister, The Brigham and Women's Hospital; Kornelia Polyak & Rachel Freedman, Dana-Farber Cancer Institute, "Improving breast cancer outcomes by understanding how immune age impacts tumor evolution and response to therapy"
  - Ashani Weeraratna, Johns Hopkins University; Arjun Raj, University of Pennsylvania, "Spatiotemporal profiling of the aged microenvironment in tumor dormancy and recurrent disease"
- With Follicular Lymphoma Foundation – Momentum Fellowship

Thank You

We are deeply grateful to everyone who makes our work possible: countless brilliant researchers, generous benefactors and advisors, collaborative partners in the non-profit and industry sectors, and our dedicated board of directors. **Together, this community is bringing new hope to all those touched by cancer.**

1350 AVENUE OF THE AMERICAS
NEW YORK, NY 10019

WWW.THEMARKFOUNDATION.ORG
INFO@THEMARKFOUNDATION.ORG