The Pew-Stewart Scholars for Cancer Research
Annual Report

Prepared for

The Alexander and Margaret Stewart Trust

September 2023

Introduction

The Pew-Stewart Scholars Program for Cancer Research is marking the 10th year of our venerable partnership. Throughout the past decade, our scholars have had a remarkable impact on the field of cancer research. The funding provided so generously by the Alexander and Margaret Stewart Trust has allowed these promising scientists to take more innovative approaches to one of the most challenging subjects facing the biomedical field today. The Pew-Stewart Scholars for Cancer Research program has had a foundational impact on the early-careers of 53 scientists from 26 institutions, whose research areas have ranged from cancer biology and gene regulation to cancer immunology and genomics.

In March, the program graduated its sixth class (class of 2019), expanding the Pew-Stewart alumni group to 32 individuals who continue to tackle critical cancer-focused investigations and garner support and recognition for their work. This past June, Pew announced the 10th class of Pew-Stewart Scholars. For the 2023 cycle, we invited 93 institutions to nominate a candidate, 72 of which did so, and 67 applicants submitted applications. In total, the national advisory committee reviewed 71 applications, with four additional applications resulting from the alumni nomination process. Broadly speaking, research areas for the new class include chemical biology, cancer immunology, genomics, and metabolism.

Five individuals were chosen for funding this year, and no nominating institutions were added for the 2023 cycle. A list of these scholars and their affiliated institutions is provided below. This new class will explore critical issues in cancer research, including studying the development of pediatric cancers, discovering new avenues for treating epithelial ovarian cancer, and pioneering chemical approaches to make cancer therapies more exact and effective. Previous Pew-Stewart classes and complete biographies of the newest class are attached as **Appendix I.**

The Pew-Stewart Scholars have had a busy and productive year, making great strides with their research. We are happy to provide you with the following highlights, as well as a financial update (the budget and expenses since the project's launch in February 2014 through June 30, 2023) in **Appendix VII.**

Class of 2023 Pew-Stewart Scholars

Liron Bar-Peled, Ph.D., Massachusetts General Hospital
Luisa Escobar-Hoyos, M.Sc., Ph.D., Yale University
Gerta Hoxhaj, Ph.D., University of Texas Southwestern Medical Center
Elvin Wagenblast, Ph.D., Icahn School of Medicine at Mount Sinai
Ziyang Zhang, Ph.D., University of California, Berkeley

Pew-Stewart Scholars News and Updates

Pew-Stewart scholars continue to be recognized for their excellence in cancer research. The following section highlights Pew-Stewart scholar distinctions, accolades, and publications over the past year.

Class of 2022

Shasha Chong and colleagues published an article in the journal *Cancer Discovery* about their study on Nucleophosmin (NPM1), a protein with a wide range of biological functions, and which contains the most common mutation in acute myeloid leukemia (AML). Despite its significant impact in AML, the role of NPM1 in leukemia was unclear until recently. Chong and her group are the first to directly link this protein to oncogenesis in leukemia. Dr. Chong's work has introduced new avenues of therapeutic intervention for these cancers.

Chengcheng Jin was the recipient of the NIH New Innovator Award, which supports exceptionally creative early-career investigators who propose innovative, high-impact projects**.** Research in the Jin lab integrates immunology, neuroscience, cancer biology, and host-microbiome interactions to understand how microbes and immune cells interact in lung cancer. Dr. Jin's work will elucidate approaches to improving immunotherapy in lung cancer.

Class of 2021

Liling Wan published in the medical journal *Blood* on the molecular mechanisms of chemo-resistance in diffuse large B-cell lymphoma (DLBCL)—the most common subtype of non-Hodgkin's lymphoma. Approximately 40% of DLBCL patients will experience relapse following chemotherapy, which will eventually lead to morbidity and mortality. Wan and colleagues successfully utilized Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) technologies to inactivate the protein KLHL6 which is known to promote resistance to chemotherapy. The findings from this study establish alternative approaches to targeting treatment-resistant DLBCL tumors with drugs that have been approved to treat other cancers.

Class of 2020

Shruti Naik and colleagues published a research article in the journal *Science Immunology* about their examination of psoriasis, a chronic inflammatory skin disease. Using spatial transcriptomics (ST), the team examined the composition of immune niches within skin biopsies obtained from psoriasis patients with or without arthritis and healthy individuals. They found that psoriasis was

associated with repositioning of immune cells into the upper layers of the skin. The Naik lab focuses broadly on understanding if prior inflammatory reactions can predispose tissues, like to skin, to developing cancer. Expanding knowledge of skin inflammatory processes will improve the knowledge base for her cancer-focused research as well.

Class of 2019

Stefani Spranger is the senior author of a new study published in the journal *Immunity* that helps to shed light on why the immune system mounts such a lackluster response to lung cancer, even after treatment with immunotherapy drugs. Immunotherapy—treatment that stimulates the immune system to attack tumors—works well against some types of cancer, but it has shown mixed success against lung cancer. In this study, Dr. Spranger and her group found that bacteria naturally found in the lungs help to create an environment that suppresses immune cells in the lymph nodes near the lungs. They hope that their findings could help lead to the development of new ways to rev up the immune response to lung tumors.

Class of 2018

Aaron Ring was recently named the new Anderson Family Endowed Chair for Immunotherapy. With this position, Ring will receive sustained support as he untangles the immune system's complexities and uses immuno-pharmacological approaches to develop cancer immunotherapies. Ring, who moved from Yale University to Fred Hutch this summer, is interested in using the natural "drugs" found within the immune system to treat cancer and reveal new biological insights.

The Howard Hughes Medical Institute named Rebecca Voorhees as one of their inaugural Freeman Hrabowski Scholars alongside other members of the Pew scholar community. She is part of a group of 31 exceptional early-career faculty who have potential to become leaders in their research fields and to create diverse and inclusive lab environments in which everyone can thrive. Voorhees seeks to understand how cancer cells identify and clear out excess proteins—an essential process of which these cells rely. Elucidating these quality control mechanisms will introduce avenues of therapeutic intervention for tackling cancer.

Class of 2017

Sabrina Spencer discovered two major findings published in impactful journals. First, her group put out results in *Cell* on work introducing a new drug combination to address cancers that have adapted to thrive in the presence of cell growth inhibitors. With this novel cocktail of drugs, cancer cell growth is stunted by targeting proteins that may be key drivers of resistance in cells that have stopped responding to therapy. The second body of work was published in *Science Signaling* where Dr. Spencer and colleagues studied tolerance to drugs that target the MAPK pathway, a major biological pathway that often drives cancer cell growth. Spencer's work uncovered a mechanism of tolerance in the presence of MAPK drugs in clinical samples. In both projects, Spencer's novel findings answered important questions about drug resistance in cancer, which could lead to new therapies in the future.

Program Highlights

Pew Biomedical Scholars Innovation Fund

Alumni of the Pew Scholars, Pew-Stewart Scholars, and Pew Latin American Fellows programs, as well as former program advisors, were invited to apply to the 2023 cycle of the Innovation Fund Award. Alumni from Pew-Stewart classes 2014 to 2018 were eligible to apply. There were two applications that included a Pew-Stewart scholar (Michael Birnbaum '18 and Kivanç Birsoy '18).

Both proposals from Pew-Stewart scholars were selected for the 2023 Innovation Fund awards. Kivanç Birsoy, from the 2018 Pew-Stewart cohort, was awarded in this year's cycle with 2016 Pew scholar Donita Brady. Their proposal will combine their expertise to uncover new proteins that regulate transition metals, building on their individual work to understand the role of metals and metabolism in cancer. And from the 2018 Pew-Stewart class, Michael Birnbaum was selected alongside Pew scholar advisor Dan Littman for their proposal on reshaping the immune response to the microbiome in inflammatory bowel disease (IBD). Dr. Birnbaum brings expertise in T-cell engineering for cancer, with applications now for IBD. The national advisory committee was enthusiastic about both proposals as they were both highly innovative and paradigm-shifting in their respective fields.

The Pew Biomedical Scholars Innovation Fund is supported through 2029 and the Pew-Stewart Scholars will continue to be eligible to apply for these annual awards.

Pew-Stewart Scholars National Advisory Committee

At the March 2023 annual convening, Peter M. Howley, the Shattuck Professor of Pathological Anatomy at Harvard Medical School, officially completed his term as chair and he was succeeded by Helen Piwnica-Worms, Professor of Experimental Radiation Oncology at MD Anderson Cancer Center. Dr. Piwnica-Worms has been a member of the committee since 2022.

To fill the committee seat left open by Dr. Howley's departure, the program welcomed Sohail Tavazoie, the Leon Hess Professor and senior attending physician at the Elizabeth and Vincent Meyer Laboratory of Systems Cancer Biology at The Rockefeller University, starting with the 2024 cycle. Dr. Tavazoie uses interdisciplinary methods and clinical approaches to study cancer metastasis and gene regulation.

See **Appendix II** for a full list of committee members.

Annual Meetings and other Convenings

The Pew biomedical programs held their annual convening March 24-29, 2023, in San Juan, Puerto Rico. The Pew-Stewart classes of 2019-2022 were invited to participate, along with advisors and Stewart trustees. It was well attended, including by Pew CEO Sue Urahn and senior vice president for Philadelphia and scientific advancement Donna Frisby-Greenwood. We are grateful that the Stewart Trustees and outgoing and incoming chairs of the Pew-Stewart advisory committee (Peter Howley and Helen Piwnica-Worms) were able to attend. The aforementioned group had an intimate dinner with Sue and Donna during their time in Puerto Rico, allowing them all to become

better acquainted. Scholars had the opportunity to interact with both Pew leadership and the Stewart advisory committee. Overall, it was an energizing few days with participants from the various subsets of the Pew biomedical community—Pew-Stewart Scholars for Cancer Research, Pew Biomedical Scholars, and Pew Latin American Fellows—truly enjoying the chance to network and support and learn from each other's work.

The program continues to take advantage of virtual opportunities for engagement. The newly selected 2023 class of Pew-Stewart scholars and Pew scholars participated in a virtual meet-and-greet event in August. The Stewart trustees joined to provide introductions and a welcome to the newest Pew-Stewart group.

Class of 2024 Selection Process

The application process for the 2024 Pew-Stewart Scholar awards is underway. In the spring of 2023, Pew invited 93 cancer research centers and institutions to nominate a candidate for the award. There were no new institutions added to the list this cycle. 67 institutions nominated candidates for the 2023 award and 64 applications were received. The institutional participation list is attached as **Appendix III**. As in previous years, applicants from the Pew alumni nomination process and from the Pew scholar institutional nomination may be considered for the Pew-Stewart Scholars program. These applications are examined on a case-by-case basis for cancer relevance and will be evaluated by both the Pew and Pew-Stewart advisory committees. Reviews will kick off at the end of September and a final selection meeting will take place in-person during the annual convening in Tucson, Arizona in March 2024.

Pew-Stewart Program Trends and Updates

From the program's inception in 2014 to the announcement of the new class in June 2023, the partnership between Pew and the Alexander and Margaret Stewart Trust has supported 53 stellar early-career cancer investigators. Below please find highlights from several aspects of the program.

Nomination Process

Applicants for the inaugural class in 2014 were drawn from the Pew Biomedical Scholars pool. The following year, the program developed its own group of nominating institutions based on a list of cancer centers designated by the National Cancer Institute (NCI). Since its establishment, the number of nominating institutions has grown from 71 to 93 institutions, and we continue to update it as additions are made to the NCI list. Additionally, each year, the advisory committee reviews requests from institutions asking to be added to the nominating list and makes selections based on program caliber. On a regular basis, we have examined HBCUs with strong research programs and previously added the Howard University Cancer Center to the group of nominating institutions.

Awarded Institutions

Pew-Stewart scholars and alumni come from 26 institutions. The institutions that have produced the highest number of awardees are the Massachusetts Institute of Technology (five); Caltech and

University of California, Berkley (four each); and New York University, Stanford University, University of California, San Francisco, University of Pennsylvania, and Yale University (three each). The full list of represented institutions can be found in **Appendix IV.**

Applicant Demographics

Since the program's inception, gender data has been collected and the number of woman applicants has ranged from 21-43%. The total percentage of woman awardees stands at 36% (19 out of a total of 53 awards). For the 2024 cycle, 42% of applicants are women, which is in line with biology assistant professor demographic statistics. This represents a strong increase from the 2023 cycle where only 21% of applicants were women. Pew remains committed to supporting the careers of female scientists and improving diversity, equity, and inclusion in our programs by selecting a diverse group of grantees, encouraging a variety of nominees from nominating institutions, and providing an inclusive and family friendly environment at the annual meetings.

Starting with the 2022 cycle, the program expanded demographic data collection of applicants with the addition of race/ethnicity, disability, and open response questions. For the 2023 cycle, the program made further adjustments to include questions on socioeconomic status and LGBTQIA+ status.

The racial/ethnic demographics for the 2023 Pew-Stewart applicant pool were as follows: Asian or Asian American (39%), White (36%), Hispanic (6%), Black or African American (1%), Middle Eastern or North African (3%), prefer not to disclose (4%), two or more races (8%), and prefer to self-identify (3%). In the awardee group (n=5), two identify as white (40%), one as Asian or Asian American (20%), one as Hispanic, or Latinx, or Spanish origin (20%), and one applicant (20%) identify as two or more races (Asian or Asian American and White). A table breaking down the demographic data of the 2023 applicants and awardees is in **Appendix V**.

Regarding disability, 1% of applicants identified as having a disability, 1% preferred to self-describe, and 0% preferred not to disclose. No awardees identified as having a disability.

Research Focus

Pew-Stewart Scholars employ diverse scientific approaches to address critical questions in cancer research. Whether through experimentation in the field of biomedical engineering, chemical biology, cell biology, immunology, genomics, or metabolism, an early analysis of scholar research demonstrates a strong focus on understanding cancer etiology, the tumor microenvironment, and the pathways that govern cancer progression. In the last several years, there has been increasing interest the role of the immune system in fighting cancer. Pew-Stewart scholars also have a sustained interest in understanding how genes are controlled and regulated in cancer. We are thrilled to see the Pew-Stewart program evolving alongside evolutions in cancer research; a chart showing funded research fields over time is attached as **Appendix VI.**

Pew-Stewart Scholars Impact Survey

As part of our reflection on the last 10 years of this partnership, Pew program staff have put together a survey to assess the impact of the Pew-Stewart program. The goal of this effort is to

determine the impact the Pew-Stewart funding has on the careers of the Pew-Stewart scholars and to identify changes that could be implemented to improve the program for future scholars. The project will be conducted in three parts: 1) a short, online survey that will be distributed to all current Pew-Stewart scholars and alumni; 2) all scholars and alumni will be asked to submit their current CVs to program staff; and 3) a select number of scholars will be interviewed. The survey, CV review, and interviews will culminate in a report to the Stewart Trustees and will highlight aspects such as the impact of funding, the importance of community-building and advisors, and suggested program improvements. The survey will also gauge interest of a separate meeting for Pew-Stewart scholars both past and present.

Cancer Research in the Pew Scholars Program

The Pew Scholars program continues to stand alongside the Pew-Stewart Scholars program in supporting cancer research. The number of cancer-focused Pew scholars remains unaffected by the Pew-Stewart Scholars program, ranging from one to three every year between 2007-2023. Since 2015, the Pew Scholars program has funded 16 researchers to pursue funded projects in the cancer research field.

Conclusion

As we enter our second decade of the Pew-Stewart Scholars program, we are immensely grateful for the Stewart Trust's partnership, guidance, and support, which have been instrumental to getting us to this milestone. The past 10 years have produced some of the most talented and innovative cancer investigators who have had a significant impact on the field. With your generous support, we are that much closer to finding therapies, and possibly cures, to cancers that affect millions of people every year. Thank you for the Alexander and Margaret Stewart Trust's steadfast collaboration on this vital work.

APPENDIX I: 2023 Pew-Stewart Scholars for Cancer Research

Liron Bar-Peled, Ph.D. There is a large unmet need for therapeutic options for patients with epithelial ovarian cancer, most succumb to the disease within five years. The Bar-Peled lab aims to open a new area of therapeutic discovery by demonstrating that certain proteins known to drive cancer are "druggable" when they were previously thought not to be. Dr. Bar-Peled's new mapping technique has provided several proteins that are appealing targets for future therapies but are conventionally considered "undruggable." He will now use cancer cells and patient samples to target these undruggable proteins to prevent cancer growth. Using findings from these initial studies, Dr. Bar-Peled will identify additional druggable proteins that, when inhibited, may help combat ovarian cancer. With these novel approaches, his work has the potential to rapidly accelerate progress in the search for new cancer treatments.

Luisa Escobar-Hoyos, M.Sc., Ph.D. The Escobar-Hoyos lab seeks to improve cancer treatments and patient standards of care using RNA-based therapies. While immunotherapy has greatly improved the treatment of some cancer types, solid tumors, including pancreatic cancer, are resistant. Dr. Escobar-Hoyos proposes to characterize a mechanism known as alternative RNA splicing (AS) in immune cells that infiltrate pancreatic tumors and may lead to resistance to immunotherapy. With these findings, she will use a technique that she developed, called SHOT, in combination with immunotherapies, to correct faulty instances of AS in the hopes of overcoming the molecular processes that lead to resistance. The approach she is taking is scientifically novel and addresses the importance of using multidisciplinary approaches across the fields of immunology and RNA biology to address clinical challenges. Dr. Escobar-Hoyos' work shows promise for developing better therapies for pancreatic cancer, which is quite difficult to treat.

Gerta Hoxhaj, Ph.D. Work from the Hoxhaj lab in cell metabolism has expanded the understanding of the biological function and regulation of NADPH cofactors, which are key molecules that protect cells from oxidative stress and are required for cell growth. Dr. Hoxhaj developed new approaches that allow the study of NADPH cofactors in various cellular organelles and will explore the role of compartmentalized NADPH pools in preventing oxidative damage and promoting cell survival. Metastatic cancer cells often experience high levels of oxidative stress yet manage to survive. These novel studies will provide insight into the role of NADPH in cancer cell spread and can direct researchers toward the development of new cancer therapies.

Elvin Wagenblast, Ph.D. The Wagenblast lab studies leukemia, the most common childhood cancer. Acute myeloid leukemia affects both children and adults, yet the genetic mechanisms causing disease in these two populations are distinct. Dr. Wagenblast aims to investigate why specific cancer-driving mutations occur in pediatric leukemia prior to birth compared with different mutations seen in adult leukemia by utilizing patient samples, CRISPR technologies, and humanized mouse models. He will introduce various cancer mutations in different combinations into human blood stem cells to build an informational map detailing alterations in leukemia and how the developmental state in which they occur is susceptible or resistant to cancer formation. The biological landscape derived from these studies will offer significant insight into expanding the current understanding of susceptibility to developing cancer in childhood and establishing new therapeutic avenues for treating pediatric leukemia.

Ziyang Zhang, Ph.D. Research in the Zhang lab is focused on harnessing chemical reactivity to target mutations that drive cancer growth and resistance. His group integrates synthetic organic chemistry, chemical proteomics, and structural biology to understand how reactive small molecules differentially interact with normal and mutated proteins, and how this information is used to guide the design of experimental drug compounds. In particular, he will develop strategies to capture mutant serines and arginines found exclusively in human cancer. Dr Zhang's goal is to provide new chemical tools that expand our ability to develop more effective and less toxic treatments targeting specific mutations in cancer that have traditionally been difficult to tackle.

Previous Classes of Pew-Stewart Scholars

Class of 2022 Pew-Stewart Scholars

Monther Abu-Remaileh, Ph.D., Stanford University
Alexander Bick, M.D., Ph.D., Vanderbilt University Medical Center
Shasha Chong, Ph.D., California Institute of Technology
Alexander Huang, M.D., University of Pennsylvania
Chengcheng Jin, Ph.D., University of Pennsylvania
Christina Towers, Ph.D., The Salk Institute for Biological Studies

Class of 2021 Pew-Stewart Scholars

Francine Garrett-Bakelman, M.D., Ph.D., University of Virginia
Anders Sejr Hansen, Ph.D., Massachusetts Institute of Technology
Ansuman Satpathy, M.D., Ph.D., Stanford University
David Van Valen, M.D., Ph.D., California Institute of Technology
Liling Wan, Ph.D., University of Pennsylvania

Class of 2020 Pew-Stewart Scholars

Shruti Naik, Ph.D., New York University Langone Health
Srinivas Ramachandran, Ph.D., University of Colorado School of Medicine
Mara Sherman, Ph.D., Memorial Sloan Kettering Cancer Center
Xuebing Wu, Ph.D., Columbia University
Jihye Yun, Ph.D., MD Anderson Cancer Center

Class of 2019 Pew-Stewart Scholars

Michel DuPage, Ph.D., University of California, Berkeley
Luke Gilbert, Ph.D., University of California, San Francisco
Diana Hargreaves, Ph.D., The Salk Institute for Biological Studies
Piro Lito, M.D., Ph.D., Memorial Sloan Kettering Cancer Center
Chao Lu, Ph.D., Herbert Irving Comprehensive Cancer Center, Columbia University
Stefani Spranger, Ph.D., Massachusetts Institute of Technology
Gabriel Victora, Ph.D., The Rockefeller University

Class of 2018 Pew-Stewart Scholars

Michael Birnbaum, Ph.D., Massachusetts Institute of Technology
Kivanç Birsoy, Ph.D., The Rockefeller University
Aaron M. Ring, M.D., Ph.D., Fred Hutchinson Cancer Center
Alex K. Shalek, Ph.D., Massachusetts Institute of Technology
Rebecca M. Voorhees, Ph.D., California Institute of Technology

Class of 2017 Pew-Stewart Scholars

Daniel A. Bachovchin, Ph.D., Memorial Sloan Kettering Cancer Center
Nadya Dimitrova, Ph.D., Yale University
Charles Y. Lin, Ph.D., Kronos Bio, Inc.
Robert K. McGinty, M.D., Ph.D., University of North Carolina, Chapel Hill
Sabrina L. Spencer, Ph.D., University of Colorado, Boulder

Class of 2016 Pew-Stewart Scholars

Stephanie Dougan, Ph.D., Dana Farber Cancer Institute, Harvard University
Dirk Hockemeyer, Ph.D., University of California, Berkeley
Paul Northcott, Ph.D., St. Jude Children's Research Hospital
Richard L. Possemato, Ph.D., Perlmutter Cancer Center, NYU School of Medicine
Ömer H. Yilmaz, M.D., Ph.D., Koch Institute for Integrative Cancer Research at MIT

Class of 2015 Pew-Stewart Scholars

Trever Bivona, M.D., Ph.D., University of California, San Francisco
Adam de la Zerda, Ph.D., Stanford University
Mitchell Guttman, Ph.D., California Institute of Technology
Cigall Kadoch, Ph.D., Dana-Farber Cancer Institute and Harvard Medical School
Min Yu, M.D., Ph.D., University of Maryland Medical School

Class of 2014 Pew-Stewart Scholars

Arvin Dar, Ph.D., Icahn School of Medicine at Mt. Sinai
Shawn M. Douglas, Ph.D., University of California, San Francisco
Andrew J. Holland, Ph.D., Johns Hopkins University, School of Medicine
Agnel Sfeir, Ph.D., Memorial Sloan Kettering Cancer Center
Roberto Zoncu, Ph.D., University of California, Berkeley

APPENDIX II: The Pew-Stewart National Advisory Committee

Helen Piwnica-Worms, Ph.D. (Chair)
Professor of Experimental Radiation Oncology
MD Anderson Cancer Center

Navdeep S. Chandel, Ph.D.
David W. Cugell Professor of Medicine & Biochemistry and Molecular Genetics
Feinberg School of Medicine
Northwestern University

Howard Y. Chang, M.D., Ph.D.
Investigator, Howard Hughes Medical Institute
Virginia and D.K. Ludwig Professor of Cancer Research
Professor of Dermatology and Genetics
Stanford University

Susan Kaech, Ph.D.
Professor and Director Nomis Foundation Chair Nomis Center for Immunobiology and
Microbial Pathogenesis
The Salk Institute for Biological Studies

Sohail Tavazoie, M.D., Ph.D.
Leon Hess Professor, Meyer Laboratory of Systems Cancer Biology
Director, Black Family Metastasis Center
The Rockefeller University

APPENDIX III: 2024 Institutional Nominations

Institutions that nominated a candidate:

1. Albert Einstein College of Medicine
2. Beckman Research Institute of the City of Hope
3. Boston University School of Medicine
4. Case Comprehensive Cancer Center, Case Western Reserve University
5. Cedars-Sinai Medical Center
6. Children's Hospital of Philadelphia
7. Cold Spring Harbor Laboratory Cancer Center
8. Columbia University
9. Dana Farber Cancer Institute, Harvard University
10. Dartmouth College
11. Duke University
12. Fox Chase Cancer Center
13. Fred Hutchinson Cancer Center
14. Georgetown University
15. Icahn School of Medicine at Mount Sinai
16. Indiana University
17. Johns Hopkins University
18. Masonic Cancer Center, University of Minnesota
19. Massachusetts Institute of Technology
20. Mayo Clinic
21. Mays Cancer Center, University of Texas Health San Antonio
22. MD Anderson Cancer Center, University of Texas
23. Memorial Sloan Kettering Cancer Center
24. National Cancer Institute
25. New York University Grossman School of Medicine
26. Northwestern University
27. Oregon Health Sciences University
28. Penn State Cancer Institute, Pennsylvania State University
29. Purdue University Center for Cancer Research, Purdue University
30. Salk Institute for Biological Studies
31. Sidney Kimmel Cancer Center, Thomas Jefferson University
32. St. Jude Children's Research Hospital
33. Stanford University
34. The Jackson Laboratory Cancer Center
35. The Ohio State University Comprehensive Cancer Center
36. The Rockefeller University
37. The University of Chicago
38. The University of Texas at Austin
39. University of Alabama at Birmingham

40. University of Arizona
41. University of California, Berkeley
42. University of California, Davis
43. University of California, Irvine
44. University of California, Los Angeles
45. University of California, San Diego
46. University of California, San Francisco
47. University of California, Santa Cruz
48. University of Colorado School of Medicine
49. University of Florida
50. University of Illinois at Chicago
51. University of Illinois at Urbana-Champaign
52. University of Kentucky
53. University of Massachusetts Medical School
54. University of Miami Miller School of Medicine
55. University of New Mexico Comprehensive Cancer Center
56. University of North Carolina, Chapel Hill
57. University of Pennsylvania
58. University of Texas Southwestern Medical Center
59. University of Utah
60. University of Virginia Cancer Center
61. Van Andel Research Institute
62. Vanderbilt University Medical Center
63. Washington University in St. Louis
64. Wayne State University
65. Weill Cornell Medicine
66. Winship Cancer Institute, Emory University
67. Yale University

Institutions that did not nominate:

1. Baylor College of Medicine
2. California Institute of Technology
3. Fred and Pamela Buffett Cancer Center, University of Nebraska Medical Center
4. Holden Comprehensive Cancer Center, University of Iowa
5. Howard University Cancer Center, Howard University
6. Marlene and Stewart Greenebaum Cancer Center, University of Maryland, Baltimore
7. Medical University of South Carolina; Hollings Cancer Center
8. Moffitt Cancer Center and Research Institute
9. Roswell Park Comprehensive Cancer Center
10. Sanford Burnham Prebys Medical Discovery Institute
11. Stowers Institute for Medical Research
12. The Cancer Institute of New Jersey, Rutgers University
13. The University of Texas Medical Branch
14. The Wistar Institute
15. University of Hawaii Cancer Center
16. University of Kansas Medical Center
17. University of Michigan Rogel Cancer Center
18. University of Oklahoma Health Sciences Center
19. University of Pittsburgh
20. University of Rochester
21. University of Southern California
22. University of Vermont Cancer Center
23. University of Wisconsin-Madison
24. Virginia Commonwealth University
25. Wake Forest Baptist Comprehensive Cancer Center
26. Winthrop P. Rockefeller Cancer Institute, University of Arkansas for Medical Sciences

APPENDIX IV: Awards by Academic Institution

Number of Awards per Institution (2014-2023)
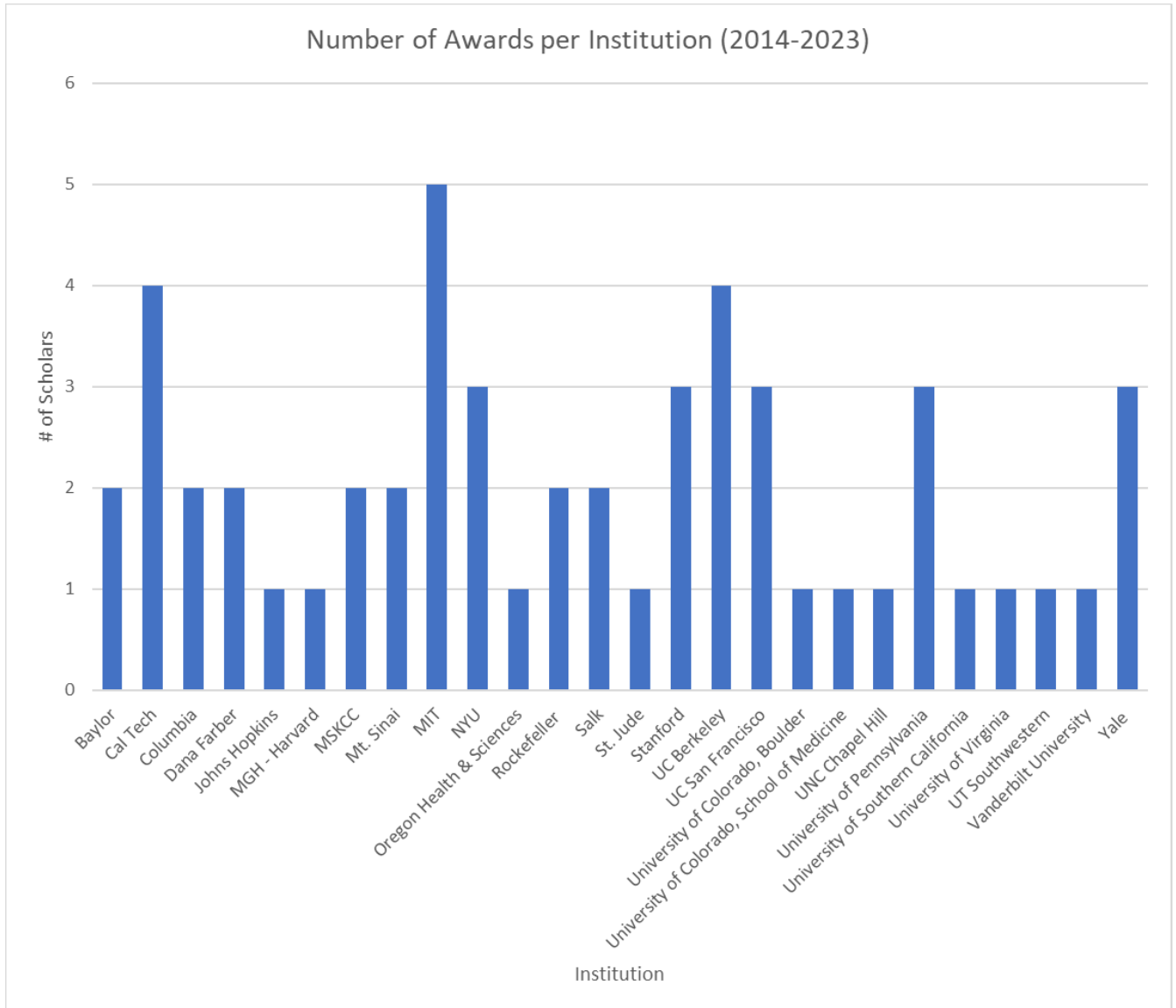
APPENDIX V: Demographic Data of 2023 Applicants and Awardees

Table 1. Gender

	Applicants (n=72)	Awardees (n=5)
Man	76%	60%
Woman	21%	40%
Non-binary	1%	0%
Prefer not to disclose	1%	0%

Table 2. Race and Ethnicity

	Applicants (n=72)	Awardees (n=5)
American Indian or Alaska Native	0%	0%
Asian or Asian American	39%	20%
Black or African American	1%	0%
Hispanic, or Latinx, or Spanish origin	6%	20%
Middle Eastern or North African	3%	0%
White	36%	40%
Two or more races	8%*	20%**
Prefer not to disclose	4%	0%
Not listed here/Prefer to self-identify	3%	0%

*Responses include: (1) Black or African American; Hispanic, or Latinx, or Spanish origin and (1) Hispanic, or Latinx, or Spanish origin; White

**Responses include: (1) Black or African American; Hispanic, or Latinx, or Spanish origin

Table 3. Disability

	Applicants (n=72)	Awardees (n=5)
Identify as having a disability	1%	0%
Prefer to self-describe	1%	0%
Prefer not to disclose	0%	0%

Table 4. LGBTQ+ Community

	Applicants (n=72)	Awardees (n=5)
Yes	8%	0%
No	85%	100%
Prefer not to disclose	7%	0%

Table 5. Low Socioeconomic Status

	Applicants (n=72)	Awardees (n=5)
Yes	15%	20%
No	78%	80%
Prefer not to disclose	4%	0%
Prefer to self-describe	3%	0%

APPENDIX VI: Funded Research Fields Over Time

This chart represents the scope of research fields addressed by 53 Pew-Stewart scholars between 2014-2023. Seven separate research areas are represented. Most classes consist of five awardees, except for 2022, when six were awarded and 2019, when seven were awarded.

Funded Research Fields Over Time
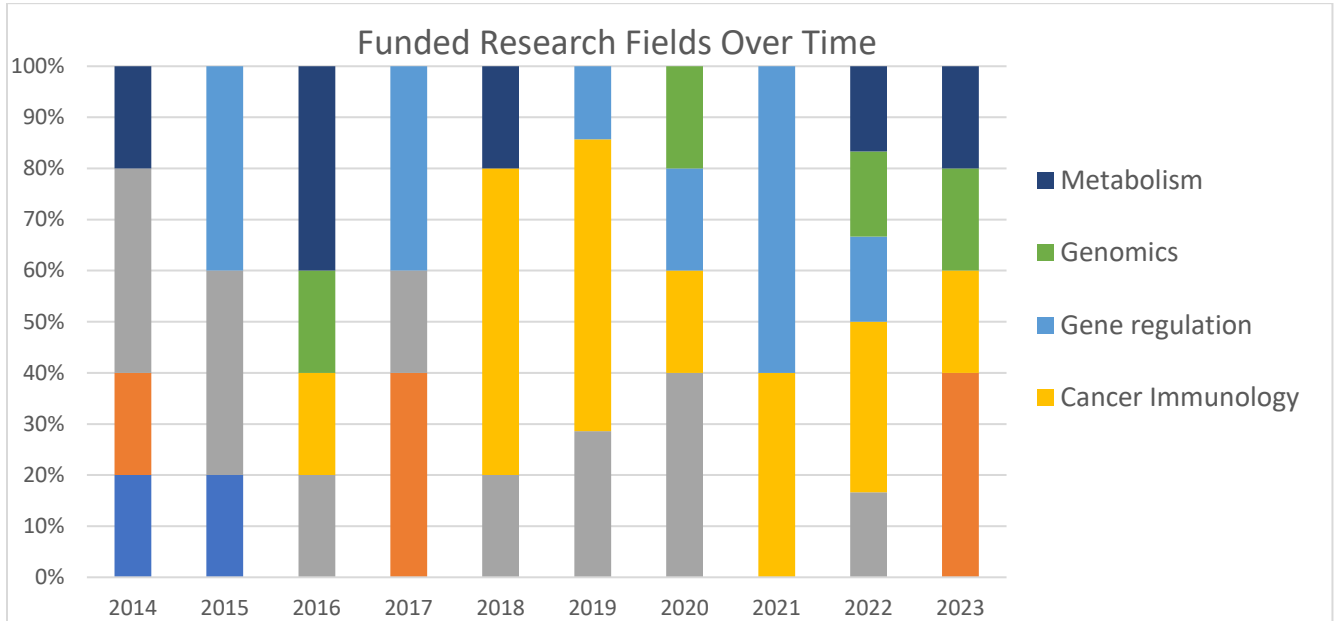
Appendix VII: Financial Report

Stewart Scholars Program
Financial Report for the period February 1, 2014 - June 30, 2023

	Cumulative February 2014 - June 2023			FY 2020 July 2019 - June 2020		FY 2021 July 2020 - June 2021		FY 2022 July 2021 - June 2022		FY 2023 July 2022 - June 2023	

Sources of Revenue	Payments Received	Funds Spent	Funds Remaining								
The Alexander and Margaret Stewart Trust	$13,847,773	13,769,100	78,673								

	Budget	Actuals	Variance	Budgets	Actuals	Budgets	Actuals	Budgets	Actuals	Budgets	Actuals
Scholarship Costs [1]											
Class of 2014 Scholars	1,275,000	1,275,000	-								
Class of 2015 Scholars	1,350,000	1,350,000	-								
Class of 2016 Scholars	1,425,000	1,425,000	-	375,000	375,000						
Class of 2017 Scholars	1,500,000	1,404,000	96,000	375,000	354,000	375,000	300,000				
Class of 2018 Scholars	1,500,000	1,500,000	-	375,000	375,000	375,000	375,000	375,000	375,000		
Class of 2019 Scholars	2,100,000	2,100,000	-	525,000	525,000	525,000	525,000	525,000	525,000	525,000	525,000
Class of 2020 Scholars	1,125,000	1,125,000	-			375,000	375,000	375,000	375,000	375,000	375,000
Class of 2021 Scholars	750,000	750,000	-					375,000	375,000	375,000	375,000
Class of 2022 Scholars	450,000	450,000	-							450,000	450,000
Class of 2023 Scholars	-	-	-								
Class of 2024 Scholars	-	-	-								
Subtotal Scholarship Costs	11,475,000	11,379,000	96,000	1,650,000	1,629,000	1,650,000	1,575,000	1,650,000	1,650,000	1,725,000	1,725,000
Meeting Expenses											
Annual Meeting including National Advisory Committee Travel	895,000	756,705	138,295	122,500	91,138	122,500	5,027	122,500	70,131	135,000	124,342
Anniversary Alumni Meeting	230,000	76,500	153,500	150,000	-	5,000	50,000	5,000	(50,000)	-	-
December 2022 Costa Rica Meeting	27,000	87,906	(60,906)	-	-	-	-	-	50,000	27,000	37,906
Personnel Expenses											
Total Salaries	996,633	1,003,782	(7,149)	122,639	142,395	125,868	119,186	129,215	130,321	132,642	132,641
Total Benefits	321,140	307,526	13,614	39,245	33,558	40,278	38,646	41,349	41,703	42,446	42,446
Program Expenses											
Electronic Application Submission Process	36,000	4,000	32,000	1,000	-	1,000	-	1,000	-	1,000	-
National Advisory Committee Honoraria	105,000	135,000	(30,000)	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Outreach to Institutions-Recruiting, Profiles, Press	10,000	5,394	4,606	-	-	-	-	-	-	-	-
Scholars Web Presence and Directory Pages	35,000	12,617	22,383	-	-	-	-	-	-	-	-
Annual Narrative and Financial Reporting	6,000	-	6,000	-	-	-	-	-	-	-	-
Publications/ Materials	41,000	1,600	39,400	1,000	-	1,000	-	1,000	-	1,000	-
Returned Grant Funds	-	(931)	931	-	-	-	(931)	-	-	-	-
Subtotal non-scholarship costs	2,702,773	2,390,100	312,673	$ 451,384	$ 282,090	$ 310,646	$ 226,929	$ 315,064	$ 257,154	$ 354,087	$ 352,335
Reduction of payment for on-hand funds	(330,000)	-	(330,000)							(330,000)	
GRAND TOTAL	13,847,773	13,769,100	78,673	$ 2,101,384	$ 1,911,090	$ 1,960,646	$ 1,801,929	$ 1,965,064	$ 1,907,154	$ 1,749,087	$ 2,077,335

[1] The scholarship costs reflect the payments made to the class rather than the expenses recorded in Pew's accounting system. The expense recorded by Pew is greater than the payment in the first year of each grant.