JANE COFFIN CHILDS Fund for Medical Research

2024 Impact Report

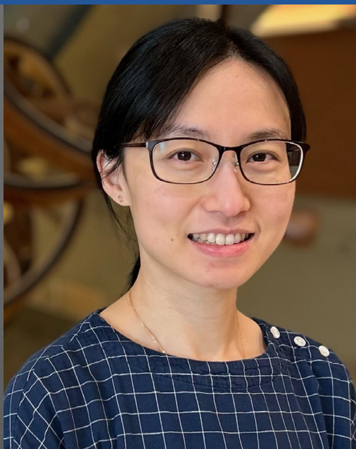






For nearly a century, the Jane Coffin Childs Memorial Fund for Medical Research has been a steadfast supporter of pioneering scientific research, investing in generations of scientists whose discoveries have shaped our understanding of human disease and continue to drive progress in medical breakthroughs.





John D. Childs

Chair, Board of Managers
Jane Coffin Childs Fund

Funding Science for Generations

The Jane Coffin Childs Fund is unwavering in its mission to drive the future of scientific discovery for the betterment of humanity.

Cancer's mark on our family runs deep. Our journey began in 1936 with the passing of my great-grandmother, Jane Coffin Childs, from breast cancer. Determined to make a difference, her husband, Starling Winston Childs, their children, and her sister, Alice S. Coffin, established the Jane Coffin Childs Memorial Fund for Medical Research (JCC) in 1937. With an unprecedented $3.5 million endowment—the largest contribution for cancer research in U.S. history at the time—JCC set out with a bold mission to accelerate research into cancer's causes and treatments. *The New York Times* hailed this visionary gift as the dawn of a "New Era in research possibilities."

By the Fund's 10th anniversary, JCC had directed over $1.3 million toward pioneering cancer research, including the creation of the JCC postdoctoral fellowship in 1944—a transformative step that would become the foundation of a robust biomedical research community.

From the outset, our Board of Managers and esteemed Board of Scientific Advisors recognized that human disease is profoundly complex and demands an integrative approach. The fight against disease requires the training of future biomedical scientists, the nurturing of collaboration, and an in-depth understanding of the cellular foundations of human health. Inspired by this founding vision, JCC now provides three years of salary support to exceptional postdoctoral fellows leading groundbreaking research into the causes, treatments, and cures of human diseases.

Over the last 87 years, we have invested over $150 million to support nearly 1,600 fellows and grantees, including 80 members of the National Academy of Sciences and 7 Nobel laureates. Alumni of our fellowship program are now global leaders, with a collective impact of $7.2 billion in research grants, translating every $1 we invested into $48 in scientific funding. Notably, nearly $1.6 billion of these research funds have come from the National Cancer Institute, underscoring our contributions to cancer research and therapy. Projects funded by JCC have led to over 7,000 publications, and in total, the work of our alumni has produced 30,000 scientific papers—shaping our understanding of disease and creating therapies that are saving lives.

Today, JCC is at an exciting juncture, amplifying support for postdoctoral fellows, strengthening partnerships, and expanding our reach. We remain unwavering in our commitment to this critical stage in researchers' careers, where creativity and innovation thrive. Partnerships with the Howard Hughes Medical Institute (HHMI) and generous philanthropists magnify our impact, empowering us to support more fellows and advance groundbreaking science. These collaborations are essential to sustaining U.S. innovation in medical science and technology.

We invite you to learn more about our transformative work in our first impact report, which shares inspiring stories of our fellows' breakthroughs and illustrates how JCC is securing our scientific workforce and driving the future of discovery.

Original Investment and Outcome

Every **$1** invested generated **$48** in additional funding in aggregate earned by JCC Fellows throughout their careers

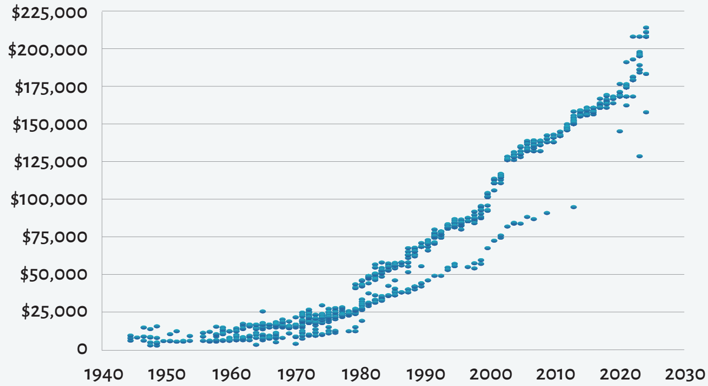
$3.5M
Original gift in 1937

$150M
to 1,556 fellows and grants

$7.2B
in carry-on grant funding

Total amount distributed from JCC for research

Funding over the Years



Sue Biggins, Ph.D.

Director, Board of Scientific Advisors
Investigator, HHMI
Division of Basic Sciences, Fred Hutchinson Cancer Center

Investing in the Future

Sue Biggins, Ph.D., the Director of the Board of Scientific Advisors, shares how the JCC Fellows program serves as a catalyst for the launch of exceptional careers, and how its advisors provide invaluable support.

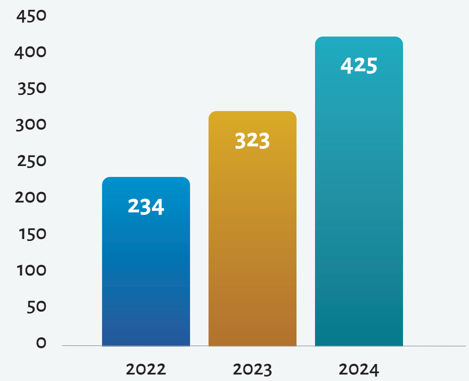
As the Director of the Board of Scientific Advisors for the Jane Coffin Childs Memorial Fund for Medical Research (JCC), I am pleased to be part of highlighting the impact that the Jane Coffin Childs Fellows Program has made. I am proud to have been selected as a JCC Fellow myself and can attest to the catalytic effect it had in launching my own career.

JCC is a fully independent, single-mission entity that is supported by an endowment that with its partners directs over $7 million a year to support postdoctoral fellowships. The JCC Fund has been extraordinarily successful since its launch and has catalyzed the careers of many scientists who have gone on to make major scientific contributions. The most critical aspect of the program is to identify and invest in the next generation of scientific leaders. As recently highlighted by Dr. Marcia McNutt, the President of the National Academy of Sciences (NAS), “U.S. leadership in science has protected our freedoms and sovereignty, provided U.S. industry with competitive advantages through advanced technologies, allowed us to set standards consistent with our ethics and values, and served as a welcome form of international diplomacy.”

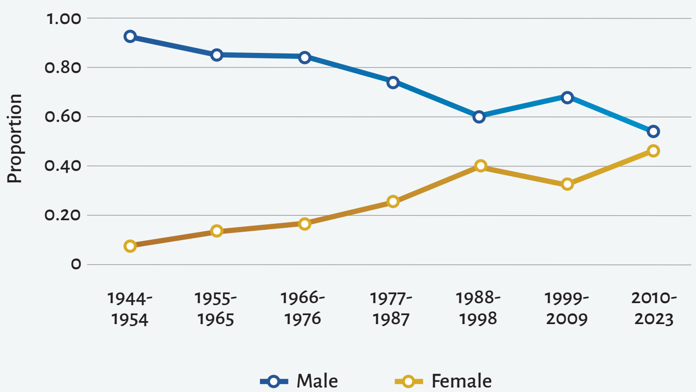
Toward that goal, JCC is guided and strongly supported by an exceptional Board of Scientific Advisors (BSA). The BSA consists of 14 leading scientists who run labs and have a wide breadth of scientific expertise to evaluate the hundreds of applications received each year. Their rigorous process includes three rounds of review, including an in-person selection meeting where the top 60 applications are discussed and ranked. This process is the heart of the JCC’s success and has ensured that the best scientists and projects are identified and funded. JCC’s policies have always been extremely flexible and free of overbearing rules and regulations, which has contributed to the success and desirability of the fellowship. Our fellows are free to attack scientific problems related to their projects in whatever way the sponsor, fellows and the BSA think is best. We hold an annual meeting of the BSA and fellows to ensure the fellows have a chance to network, present their data, and be mentored by both their peers and the BSA.

I am excited as we expand our JCC community and partnerships to ensure that the best science continues to be done by the most promising scientists in the world.

JCC Applicant Growth 2022-2024



Male and Female JCC Fellows by Decade



Our Areas of Research

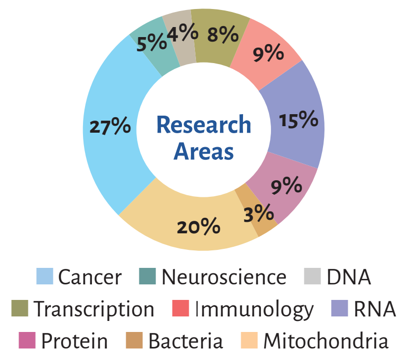
Since its founding, the Jane Coffin Childs Fund has been at the forefront of far-reaching cancer research and scientific discoveries.

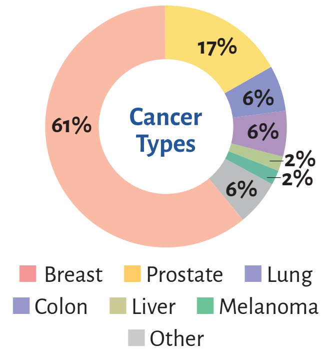
The Jane Coffin Childs Fund for Medical Research has been instrumental in advancing pivotal developments in biomedical research. By supporting early-career scientists and innovative research initiatives, the Jane Coffin Childs Fund has played a key role in significant scientific discoveries, from the origins of molecular biology to today's genomic technologies. Before JCC's creation, biomedical research primarily revolved around descriptive pathology and clinical observation, lacking insight into the molecular and genetic aspects of disease. The rapid advancements in the field from the 1930s to the 1950s marked a transformative period, leading to a focus on cellular and molecular understanding, exemplified by the discovery of DNA's structure in 1953.

Throughout the mid-20th century, JCC was committed to fostering research that supported the molecular revolution. By providing resources to leading researchers in biochemistry, genetics, and cell biology, JCC enabled significant progress in decoding the genetic blueprint of life through technologies like Sanger sequencing and polymerase chain reaction. Additionally, JCC recognized the value of interdisciplinary research during the 1990s, funding studies on the molecular bases of neurological disorders, which contributed to advancements in understanding neurodegenerative diseases. JCC's continued support into the 21st century has facilitated breakthroughs in regenerative medicine, particularly in stem cell research, reinforcing its legacy of promoting scientific progress in addressing critical questions in biology and medicine.

From its earliest days, the Jane Coffin Childs Fund has been at the forefront of scientific progress, helping to advance research that addresses the most fundamental questions in biology and medicine. By identifying and supporting visionary researchers, the Jane Coffin Childs Fund has contributed to the technological revolutions that now allow scientists to ask deeper and more complex questions about human health and disease.

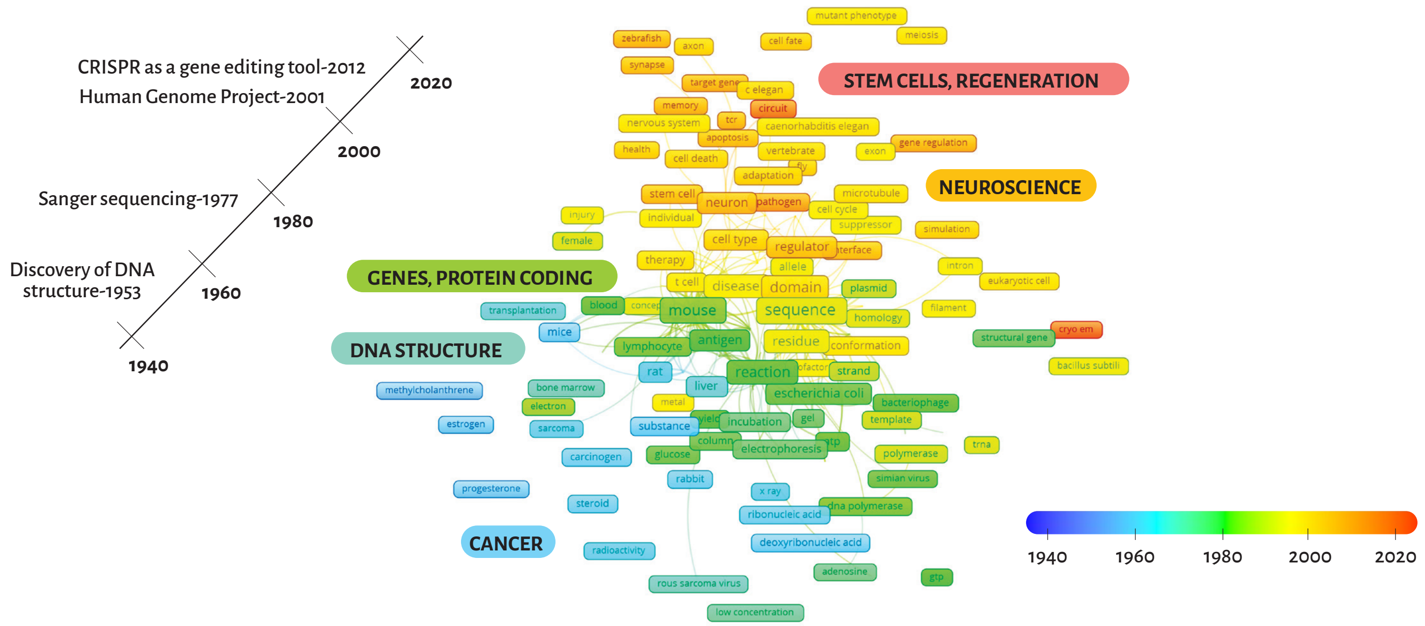
Research Areas Funded





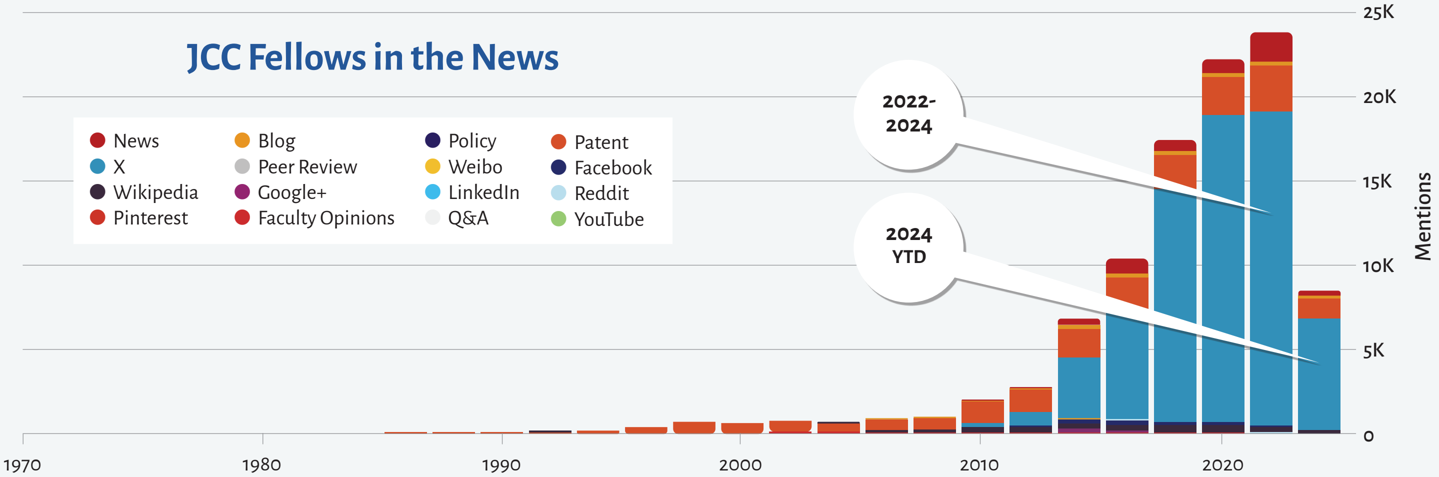
Emerging Areas of Funded Research

JCC has supported transformative scientific research from the early days of molecular biology to today's genomic technologies.



JCC Fund by the Numbers

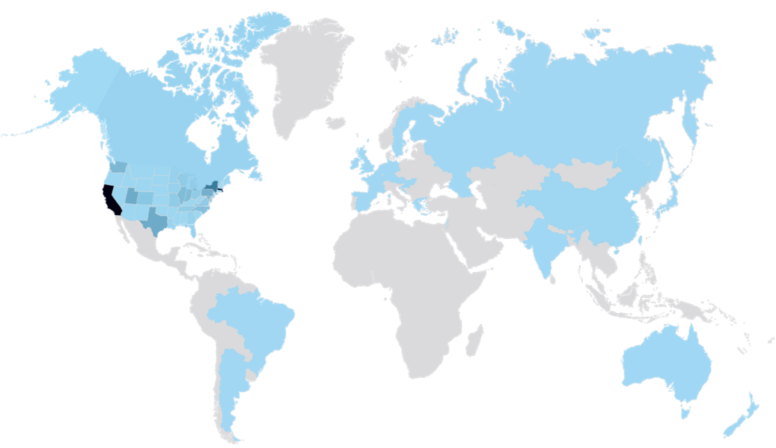
JCC Fellows in the News



Alumni Around the World

Top 10 Domestic Locations of JCC Alumni

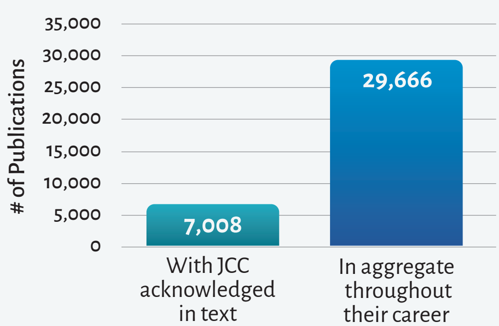
California	219
Massachusetts	159
New York	82
Texas	41
Utah	41
Maryland	38
Pennsylvania	36
Washington	31
Connecticut	27
Illinois	25



Top 10 International Locations of JCC Alumni

Canada	30
UK	25
China	10
Korea	10
Germany	9
France	8
Israel	7
Switzerland	7
Sweden	5
India	4

Fellows Research Outputs: Publications



JCC-supported publications as JCC Fellows compared with publications of fellows throughout career.

Awards Granted

7 Nobel Prizes to JCC Fellows and Grantees

80 JCC Fellow NAS Members

17 HHMI Investigators

4 Lasker Prize

Research Outputs

	Directly Suported by JCC	In Aggregate throughout Career
Patents	38	2,800
Citations	319,000	2,660,000

High-Risk, High-Reward Science

Meet our fellows, who are launching exceptional careers that advance scientific knowledge.

Meenakshi Asokan, Ph.D.

Bridging Biology and Behavior: How Sex Hormones Shape Brain Function and Influence Reproductive Mood Disorders

Meenakshi is a postdoctoral fellow at Princeton University in the laboratory of Dr. Annegret Falkner focusing on how social interactions and behaviors are controlled by a hormone-sensitive brain network. Meenakshi is studying how sex hormones affect brain connections and influence behavior. She hypothesizes that these hormones can change how certain brain areas control social interactions, especially in women. By using behavioral tests and computational tools she will track how hormones impact social motivation and preferences, then find the specific brain areas involved. Once identified, she'll study how these brain regions affect social behaviors and test their role in hormone-driven changes. Her research could help us better understand conditions like postpartum depression or mood changes related to menopause and the menstrual cycle.

Tessa Bertozzi, Ph.D.

Tiny Tools, Big Impact: How CHARMs Are Paving the Way for Targeted Gene Editing to Combat Prion Disease

Tessa is a postdoctoral researcher at the Whitehead Institute in the laboratory of Dr. Jonathan Weissman. She is working on two distinct projects related to epigenetic modifications to DNA. One looks at how epigenetic changes can impact inherited genetic instructions and the second uses of molecular tools to treat fatal prion disease. Understanding how genes are controlled is essential for grasping human health and disease. Scientists have recently developed tools called molecular epigenetic editors, like CRISPRoff, which allow them to turn genes on or off without altering the DNA itself. These tools use special proteins to attach chemical tags to DNA, effectively silencing certain genes. Tessa is working on a project to explore how these proteins interact to help maintain stable gene regulation. Also, she and her lab have created a new type of tiny and efficient gene editor called CHARMs, a system that uses natural enzymes found in our bodies to add the necessary chemical tags and can be delivered to specific locations in the brain. CHARMs are specifically designed to work with certain proteins that bind to DNA, allowing them to silence a gene associated with prion diseases effectively. While CHARMs have shown promise in mice, Tessa and her team are currently refining these tools to make them suitable for use in human patients.

Amir Bitran, Ph.D.

How Insights into Protein Folding Can Lead to Breakthroughs in Treating Diseases

Amir is a postdoctoral fellow at the University of California, Berkeley, in the laboratory of Dr. Susan Marqusee, where he studies the biophysics of proteins. His research explores how proteins—molecules essential for life's processes such as growth, metabolism, and reproduction—acquire their functional 3D structures through folding. A protein's function is directly linked to its shape. Proteins perform essential tasks in the body, like supporting cell structure, facilitating chemical reactions, and protecting against disease. If a protein doesn't fold correctly, it can't perform its function, which can lead to serious health problems. Misfolded proteins are linked to diseases like Alzheimer's, Parkinson's, cystic fibrosis, and some cancers.

Specifically, Amir is studying co-translational folding in which the protein being made begins folding into the correct shape while it's still being built. This early folding helps the protein function properly and prevents mistakes that could lead to diseases. His research has broad implications for understanding disease, with the goal of designing new therapies for protein disorders such as Alzheimer's.

Hannah Ledvina, Ph.D.

Unlocking Nature's Defense: Shaping the Future of Antibiotics and Precision Cancer Treatment

Hannah is a postdoctoral fellow in the Department of Biochemistry at the University of Colorado Boulder, where she works in the laboratory of Dr. Aaron Whiteley. She is studying how bacteria and viruses interact with the immune system and how they sometimes escape detection to cause disease. The goal is to understand these processes to help develop better treatments for infections and cancer and identify ways to enhance immune function and fight disease.

Antibiotic resistance poses a major global health threat, with bacteria finding ways to evade all classes of antibiotics. Hannah's research focuses on how bacteria, like E. coli, resist bacterial predators through a novel technique called Exploring the Pangenome for Novel Defense (ExPND). By studying bacterial competition and defense mechanisms, she is identifying vulnerabilities that could be exploited to create new antibacterial drugs and therapies. Her work has already uncovered new bacterial defense systems, including extracellular structures that prevent predation. Understanding these defense systems will enable future development of therapeutics that activate the human immune system for the precise treatment of disease.

Phi Nguyen, Ph.D.

Personalizing Mental Health: Exploring Why Antidepressants Work for Some but Not Others

Phi is a postdoctoral fellow at Columbia University and the New York State Psychiatric Institute in the laboratory of Dr. René Hen. He is working on understanding how people with major depressive disorder (MDD) respond to antidepressants to understand treatment-resistant depression. MDD is defined as a serious mental health condition characterized by persistent feelings of sadness or a lack of interest or pleasure in previously enjoyed activities. Phi is researching why some people respond well to antidepressants while others don't. This is important because current antidepressants only help about 40% of patients with MDD.

During his postdoctoral work, Phi developed a model to study treatment-resistant depression and explore the biological reasons why antidepressants, like fluoxetine (an SSRI), work for some but not others. His research looks at how negative emotions are processed and how the brain's pathways change during this process. The goal is to better understand how antidepressants work and to find new ways to create more personalized treatments for depression.

Donté (Alex) Stevens, Ph.D.

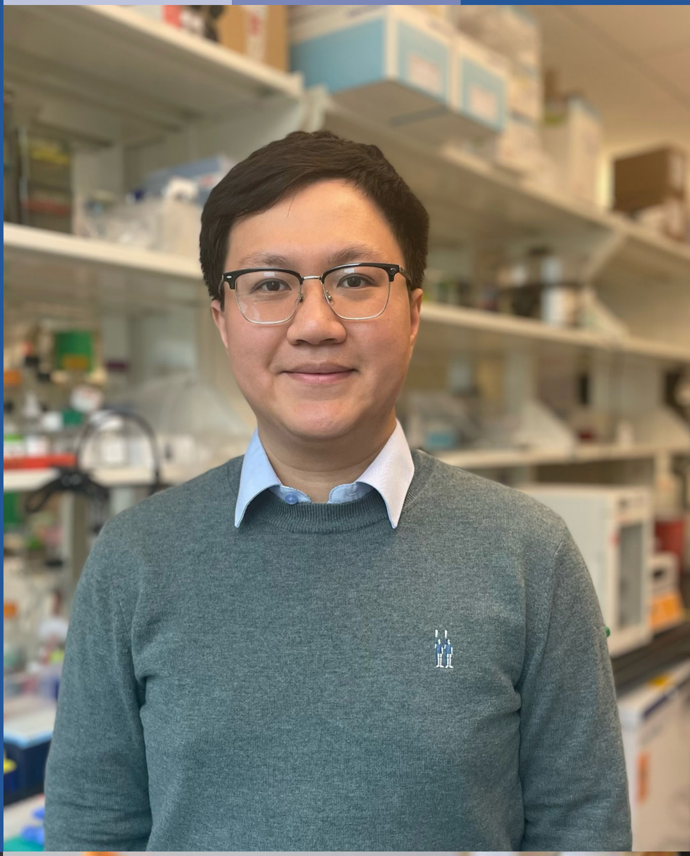
Targeting Tau: Pioneering Research for Next-Generation Alzheimer's Therapies

Alex is a postdoctoral researcher in the laboratory of Dr. Keren Lasker at the Scripps Research Institute. He is working on new treatments for diseases like Alzheimer's that involve a harmful buildup of a protein called tau in the brain. This protein is usually responsible for stabilizing the structure of brain cells, helping them function properly. However, in tauopathies, tau proteins become misfolded and form tangles, disrupting communication between brain cells. This leads to cell damage and death. His research focuses on creating special molecules to help remove these tau bundles, which don't respond well to current, traditional treatments.

In this next stage of his career, Alex's groundbreaking research will aim to provide a foundation for next-generation tauopathy treatments and expand the use of biomolecular condensates to combat other pathological conditions. Biomolecular condensates serve as small workstations within the cell, organizing important components so that they can work together efficiently. They help the cell respond to changes, manage stress, and carry out specific tasks, such as processing information or defending against infections. These centralized workstations could one day potentially serve as platforms for targeted drug delivery by concentrating therapeutic agents directly at sites where they are needed most within the cell.

Our Legacy Continues

JANE COFFIN CHILDS Fund for Medical Research



Partner with Us

Advances in scientific research that result in improvements to human health are prompted by imagination, a bold determination to seek answers, and the versatility to consider novel approaches. These characteristics define not only those who conduct biomedical research but also those who invest in it.

Since 1937, the Jane Coffin Childs Fund for Medical Research has supported some of the best and brightest postdoctoral fellows in the world, specifically in oncology and human disease research. The tale of modern medicine can be found in our files describing brilliant scientific minds who have been endorsed by our organization and have been recognized with seven Nobel Prizes for making major contributions to the fields of chemistry and physiology.

As we work hard to share more about our scientific impact over the course of nearly 90 years, we hope you will join us in our journey to fund more innovative, early-career scientific leaders whose work will one day have the power to transform the scientific landscape.

To learn more about the JCC Fund please visit jccfund.org or get in touch with us!

Anita Pepper, Ph.D.
Executive Director

EMAIL: **anita.pepper@yale.edu**
PHONE: **(203) 785-4613**