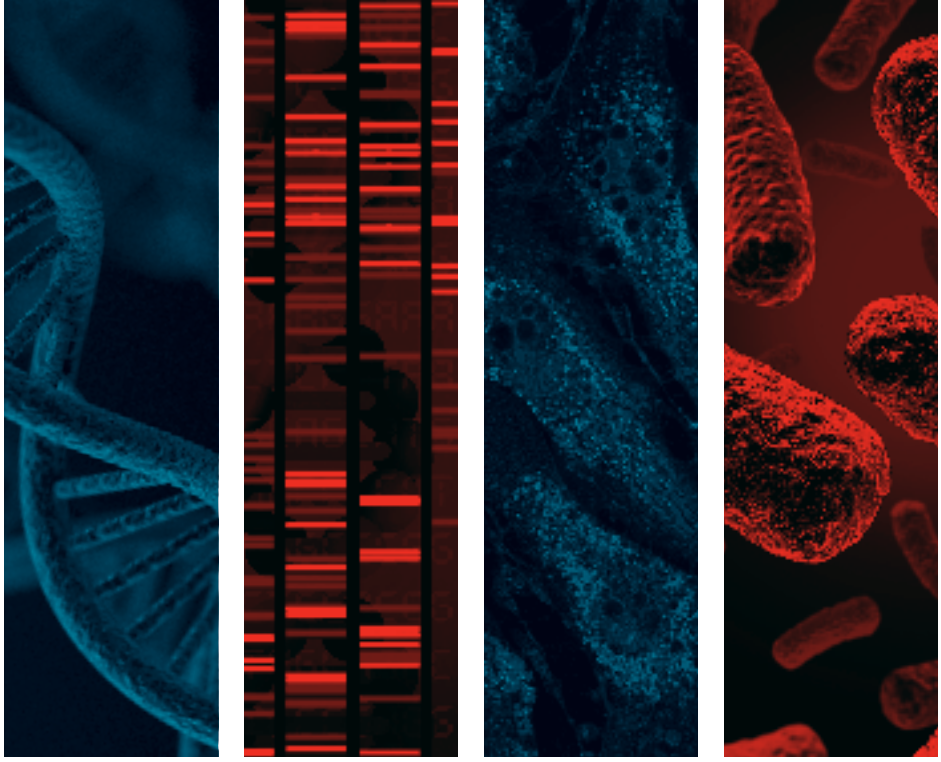
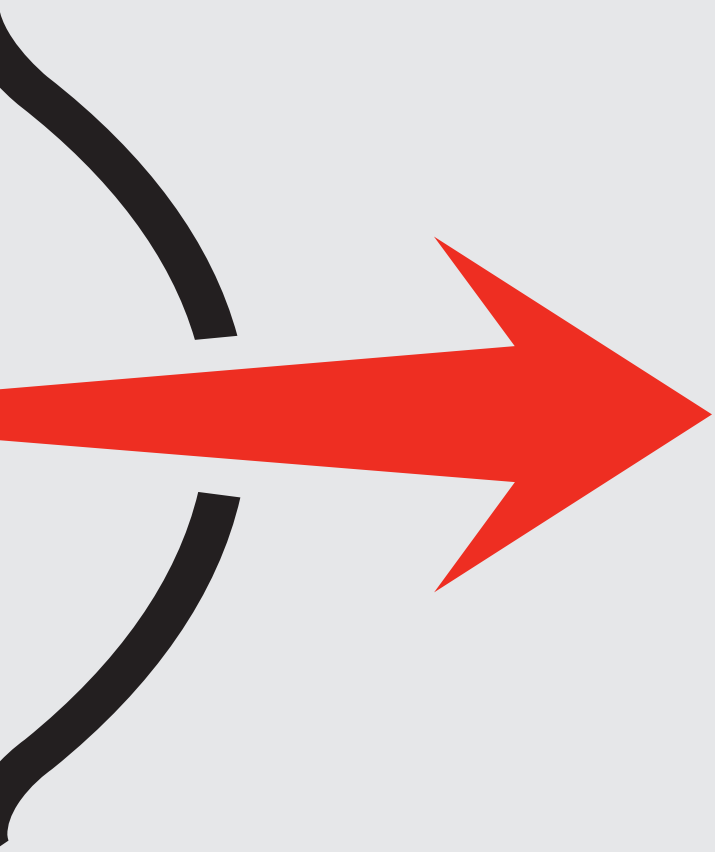


2014 ANNUAL REPORT

10 YEARS OF LEADING RESEARCH

Cure Alzheimer's FUND



MISSION

To fund research with the highest probability of preventing, slowing or reversing Alzheimer's disease through venture-based philanthropy.

Message from the Chairman 1
Message from the Research Consortium Chairman 3
10 Years of Leading Research 6
Research Roadmap 8
2014 Research Projects 9
Our Scientific Leadership 24
Our Research Influence 25
Our Model is Working 26
Message from the President 28
2014 Fundraising 30
2014 Financials 31
A Special Thanks to Our Heroes 32
Our 2014 Events 34
In Honor and In Memory 36
Why Cure Alzheimer's Fund? 40
Board of Directors and Administration 41

On This 10th Anniversary of Our Founding, It Is Still All About The Science

Message from the Chairman

Jeff Morby, Chairman and Co-Founder, Cure Alzheimer's Fund

Dear Friends,

When we established Cure Alzheimer's Fund 10 years ago, we decided to apply our philanthropic efforts to the core problem of Alzheimer's disease (AD) – there was no cure. To find an effective treatment or preventative measure as soon as possible, we chose to focus on supporting leading edge Alzheimer's research – the best science, carried out by world-class researchers. Today, although we have not yet achieved our objective, we are much closer to our goal. Along the way, we have made significant contributions to the field. Dr. Rudy Tanzi, Chair of our Research Consortium, elaborates our science achievements and agenda in his letter (page 3). Tim Armour, our president and CEO, provides details about our growth in support and research funding in his letter (page 28). Below are a few highlights.

1. **Three genomic scans of Alzheimer's disease.** At the outset we decided that the only way to develop therapies for the disease was to identify and understand the functions of all of the important Alzheimer's genes. So very early in our formation, we carried out the first genomic scan of AD – identifying five new genes for the first time in more than 10 years. Our discovery was dubbed by Time Magazine in 2008 as one of the world's top medical breakthroughs. Subsequently, we conducted an additional genomic scan focused on the coding portion of the genome, and then in 2013 we carried out the first Whole Genome Sequencing scan of all the base pairs of the genome. We now have one of the largest databases in the world of Alzheimer's genetics. This database is a tool we will use to carry out our very ambitious Genes to Therapies™ (G2T) project, which Rudy will describe.

2. **Gamma secretase modulator on its way to human trials.** This is a very promising AD therapy developed by our researchers, which is expected to begin Phase I trials this year.

3. **Alzheimer's in a dish.** This new technology, hailed as a "breakthrough" in a New York Times feature on October 13, 2014 as well as in Scientific American's 2014 winter bulletin, was developed by our researchers. It has already led to an important conceptual advance that is now helping us and others to speed up our understanding of AD genes and test potential therapies on AD neurons.

4. **The role of the innate and adaptive immune systems.** Rudy will describe our fascinating new insights into the role of the human immune systems in contributing to Alzheimer's pathology.

A Record Year In Many Respects

Our scientific progress and support for research are being recognized in a number of different ways:

- The number of scientific papers published as a result of our funding has reached 160.
- The number of references to our work in other scientific publications has now exceeded 10,000.
- Our donor base has grown from 11,000 in 2013 to 17,000 in 2014.
- Our donor contributions have grown from $7.3 million in 2013 to $10.7 million in 2014, an increase of 47 percent.
- Cure Alzheimer's Fund has achieved the highest charity rankings from Charity Navigator, Guidestar and Better Business Bureau for four years in a row.

New Members of the Team

We are very pleased to welcome Sherry Sharp and Matthew Szulik to the board. Sherry's husband, Richard Sharp, an exceedingly creative and successful businessman, passed away from AD in 2014. Matthew left his role as CEO of Red Hat, a technology giant in the open source computing world, to care for his father who was suffering from Alzheimer's.

Sherry and Matthew, along with their colleagues on the board, our researchers, staff and donors, are passionate about finding a cure for the disease and are already engaged in helping us in a variety of ways.

None of this success would have been possible without the exceptional support of our donors. This year's record fundraising gives us a strong base from which to launch the G2T project and other initiatives. But to truly take advantage of the research opportunities we have – to truly quicken the pace of progress toward a cure – we must continue to gain momentum through additional fundraising. We know we can count on all of you to help, and for that, we are so grateful. As always, the founders and directors pay all of the operating costs of the foundation so that all third-party donations go 100 percent into research.

Thank you all for your wonderful support.

Jeffrey L. Morby
Chairman and Co-Founder

None of this success would have been possible without the exceptional support of our donors. This year's record fundraising gives us a strong base from which to launch the G2T project and other initiatives.

Gaining Momentum and Breaking New Ground

Message from the Research Consortium Chairman

Rudolph E. Tanzi, Ph.D.
Chairman, Research Consortium, Cure Alzheimer's Fund

Dear Cure Alzheimer's Fund Friends,

2014 has arguably been Cure Alzheimer's Fund's most successful year in terms of research accomplishments since the Foundation began. I am delighted to share some highlights of the important work we have been able to conduct with your financial support.

First, we continued our Alzheimer's Genome Project™ (AGP), the first study to describe the whole genome sequencing (WGS) of a large sample of Alzheimer's families (see page 11). This will be completed and published in 2015. Our database of genetic data on Alzheimer's disease (AD) is now unrivaled in the world with regard to both quantity and quality. We have identified hundreds of gene mutations and variants that directly increase or decrease risk for AD. The first phase of the AGP, the Genome Wide Association Study (GWAS), helped us identify the genes, while WGS has now provided us with the actual DNA variation in the genome that is responsible for increased or decreased risk for AD. As far as I am aware, whole genome sequencing of AD, or any disease for that matter, has never been completed before on such a large scale.

Second, we have used the results of these genetic studies to launch a huge initiative in drug discovery and development (see page 7). We call this program Genes to Therapies™ (G2T). We are using the AD-associated gene mutations derived from the WGS project to create more accurate and physiologically relevant models of disease in both mice and our new 3D stem cell-derived neuronal cell cultures, a technological innovation recently published in Nature (and covered in a front-page story in The New York Times on Oct. 13, 2014).

Third, as a result of the WGS project's exciting genetic results, we have gathered even more compelling data supporting a major role for the immune system, infection, and inflammation in the pathological process of AD. Increasingly, gene mutations that we identify in AD patients are revealing AD to be largely an "immunogenic" disease – much more than we appreciated before. Our newest genetic data continue to implicate the brain's innate immune system, also known as inflammation, caused by microglial cells and the CD33 and TREM2 genes. However, our newest genetic findings are also implicating the body's "adaptive immune" system genes—for example, genes involved in antibody production, B-cell and T-cell function, and acquired immunity to fight infections—in AD's development.

In the past year, our newest genetic data have coalesced remarkably well with Rob Moir's (Harvard Medical School, Massachusetts General Hospital) groundbreaking data on the role of Abeta as an anti-microbial factor in the brain (see page 15). Similarly, Se Hoon Choi, a member of my lab and the first author of the recent Nature paper on "Alzheimer's in a Dish," has collaborated with Rob Moir to show that introducing bacterial infections in the brains of Alzheimer's mouse models dramatically increases the deposition of Abeta – the coup-de-grâce experiment!

Since we now see both innate and adaptive immunity genes associated with risk for AD, we have formulated a new and bold hypothesis. As we age, our immune system becomes less and less effective at preventing chronic, low-grade, sub-acute infections from viruses, bacteria and yeast. These microbial pathogens eventually make their way into the brain as the blood-brain barrier becomes gradually compromised owing to Abeta accumulation around blood vessels. This leads to further Abeta deposition in the brain (to fight and envelop the microbial pathogens), followed by tangle formation (perhaps to stop viral spread from neuron to neuron in axons), followed by cell death and subsequent inflammation, leading to cognitive decline and dementia. Of course, a great deal of study will be necessary to test this intriguing new theory regarding the underpinnings of AD.

Thanks to the combination of our new genetic discoveries, the Alzheimer's in a Dish findings, the immune studies, and other findings from Cure Alzheimer's Fund grantees, we now have a much more integrated and comprehensive idea of the disease process than ever before. Moreover, with the new 3D culture systems that we are perfecting and other model systems that we are creating for G2T, we will have the means to screen more rapidly and cost effectively for existing and novel drugs that can stop the disease process.

Beginning on page 11, you will find descriptions of the complementary and important research funded by Cure Alzheimer's Fund in 2014. All of this work is aimed at understanding the origins and progression of Alzheimer's pathology. Each researcher looks at a different part of this complex puzzle and attempts to tell us how a particular gene, protein, or biological/chemical or environmental process contributes to risk for, or protection against, the disease.

Some of these investigations involve very basic research, such as Robert Malenka's (Stanford) work on the mechanism of synaptic plasticity and how Abeta interferes with synaptic activity of nerve cells (see page 22) and Marc Tessier-Lavigne's (President, The Rockefeller University) study of re-programming stem cells to make brain neurons (see page 13).

Some of these projects follow up on the identification of specific new AD-related genes, including our studies of the ADAM10 and CD33 genes; Berislav Zlokovic's (University of Southern California) work on the gene PICALM (see page 16); Cynthia Lemere's (Brigham and Women's Hospital, Boston) follow-up study on the CR1 gene; and Marco Colonna's (Washington University at St. Louis) investigation of the TREML2 gene's role in Alzheimer's pathology (see page 18). These are classic examples of the G2T initiative's mission to understand how AD-related genes affect Alzheimer's pathology. Other projects adapt lessons from other diseases, such as the work of William Mobley (Down syndrome) (see page 20) and Alexandra Newton (cancer) (see page 18), both from the University of California at San Diego. Ben Wolozin of Boston University investigates aspects of the protein tau in AD (see page 17), and John Chen of Harvard/Massachusetts General Hospital has analyzed the uses of imagery in treating AD (see page 21).

The project we are supporting that is the closest to clinical trials, and therefore closest to a potential drug, is the gamma secretase modulators (GSMs) at the University of California, San Diego in Steve Wagner's lab (see page 21). Steve and

> We made great strides in 2014. Combined with the insights of other researchers in the field, we will move much closer to effective therapeutic development in 2015.

I are on track to get a GSM candidate into phase I clinical trials for safety in 2015. I continue to believe that GSMs are among the best possibilities we have for curbing amyloid deposition, preventing downstream pathologies such as tangles and cell death, and ultimately slowing or stopping Alzheimer's pathology before it can take hold.

All of these projects share the aim of understanding the origins of AD and how the pathology progresses through the brain in order to learn where the disease is most vulnerable to intervention. We made great strides in 2014. Combined with the insights of other researchers in the field, we will move much closer to effective therapeutic development in 2015.

2015

Building on our research achievements in 2014, I see the Cure Alzheimer's Fund research program focusing on three major areas in 2015:

1. **Whole Genome Sequencing Analyses**
   We aim to complete and publish the first study to describe the whole genome sequencing of a large sample of Alzheimer's families. This will be shared with researchers around the world to give more targeted data from which to develop effective therapies.

2. **The Genes to Therapies™ Initiative (and Alzheimer's in a Dish)**
   Having identified virtually all of the genes that affect risk for or confer protection against AD, the G2T initiative will determine *how* the top-priority genes affect Alzheimer's pathology, thus leading to faster development of effective interventions.

3. **The Role of the Immune System in Alzheimer's Disease**
   This truly groundbreaking research will not only create a new paradigm for understanding AD but will also provide new windows into diseases such as diabetes, cancer and others.

These are very exciting days. If you think we have made progress in 2014, just wait to see what is to come in 2015 and beyond. Success breeds success! Once again, thank you to my colleagues, the Board and staff of Cure Alzheimer's Fund, and the many, many supporters of CAF who have made all this progress possible. The best is yet to come, and we will not stop until the job is finished.

Thank you,

Rudy

Rudolph E. Tanzi, Ph.D.

Joseph P. and Rose F. Kennedy Professor of Neurology, Harvard Medical School

Vice Chair, Neurology

Director, Genetics and Aging Research Unit, Massachusetts General Hospital

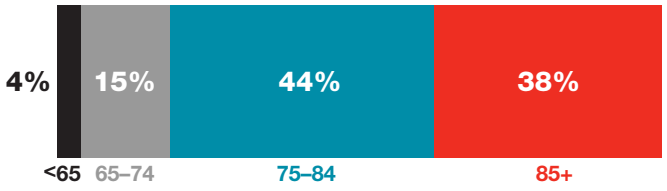
10 YEARS OF LEADING

The Problem of Alzheimer's

Alzheimer's is the most common cause of dementia worldwide, affecting more than 5 million individuals in the United States alone. It is a progressive disease of the brain that develops slowly over time, leads to increasingly serious cognitive decline associated with the presence of amyloid plaques, tau tangles and inflammation in the brain, and it eventually is fatal. Alzheimer's primarily affects the elderly, but it can also emerge as an early-onset form in middle age. With more than 70 million aging baby boomers, Alzheimer's disease has the capacity to single-handedly collapse the U.S. health care system in the coming decades.

Dramatic gains in human longevity have resulted in life expectancies into the 70s, 80s and 90s, with an associated increase in the risk of Alzheimer's. Roughly 13 percent of those age 65 and older have Alzheimer's; this skyrockets to around 50 percent for those age 85 and older. While there are, of course, many serious health threats to the elderly, Alzheimer's is the only major health threat on the rise AND the one toward which we have by far the least-sophisticated medical response. The financial costs also are terrifying, reaching more than $200 billion annually in the United States (more than $600 billion worldwide). These numbers inevitably will increase dramatically along with the number of cases, threatening to bankrupt national health care systems.

Proportion of People With Alzheimer's Disease in the United States by Age Range



Source: *Alzheimer's Disease Facts and Figures, 2014 (Alzheimer's Association) (p.16). Percentages may not total 100 because of rounding.*

When Cure Alzheimer's Fund (CAF) was created in late 2004, our mission was to end the disease by:

1. Identifying all risk genes;
2. Using those genes to reveal underlying disease mechanisms; and
3. Aggressively pursuing potential therapies based on the knowledge gained from Alzheimer's genes.

While we have not yet stopped the disease, we have, without question, come much closer to the goal line through substantial progress in these three key benchmarks.

What We've Done

Cure Alzheimer's Fund has dedicated substantial resources to identifying the full complement of Alzheimer's genes. The Alzheimer's Genome Project™ was launched in 2005—and the first phase of this study led to the identification of more than 100 new Alzheimer's candidate genes.

This was the first large-scale, family-based study of the human genome specific to Alzheimer's disease, and the first to report novel AD genes with statistical significance. Additionally, a critical step was taken to identify not just which genes are associated with Alzheimer's risk, but also all of the DNA variants and mutations in those genes that increase or decrease risk for late-onset Alzheimer's disease. This was accomplished by Whole Genome Sequencing (WGS), which was used to read the entire genome of individuals with Alzheimer's—all 3 billion base pairs of DNA across all 46 chromosomes. This allowed us to identify nearly 1,000 new genetic mutations in more than 50 different Alzheimer's and frontotemporal lobar dementia genes, all of which functionally cause or protect against the disease. In identifying these new gene mutations, Dr. Rudolph Tanzi and his team effectively have identified the key biological causal agents that drive Alzheimer's pathology in the brain.

RESEARCH

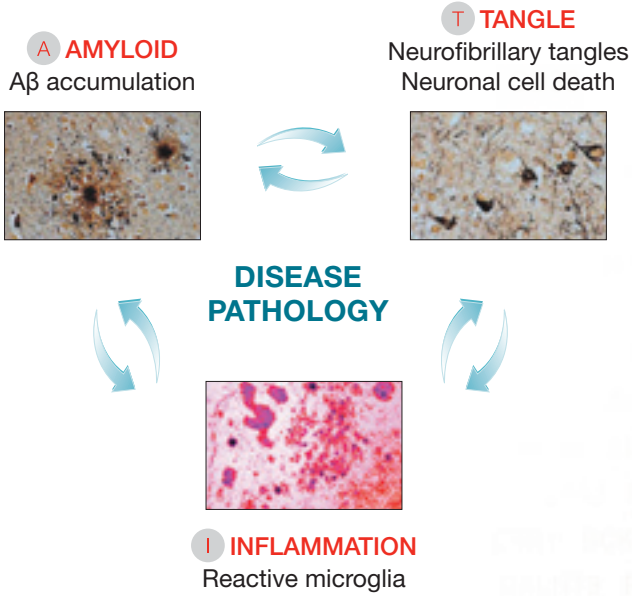
What We've Learned

Using our genetic discoveries as guideposts, Cure Alzheimer's Fund has sponsored dozens of studies investigating the central mechanisms of action behind the disease.

We also have a more thorough understanding of how Alzheimer's pathology progresses from the earliest to latest stages of the disease. This model of Alzheimer's allows us to identify three basic strategies for intervention in the process:

1. An early-stage intervention, inhibiting the production of the Abeta protein and/or clearing it from the brain after it forms.
2. An early- to mid-stage intervention that would inhibit the formation of tau tangles and protect neurons from undue stress.
3. A late-stage intervention that would fight inflammation, and thus slow down or even stop the disease process.

Finally, we've identified individual genes as being promising drug targets. This has prepared us for the next stage of the AGP, Genes to Therapies™.



G2T
Genes to Therapies

What's Next: Genes to Therapies

The ultimate goal of this work is the development of effective interventions at several points in the pathological cascade of Alzheimer's disease.

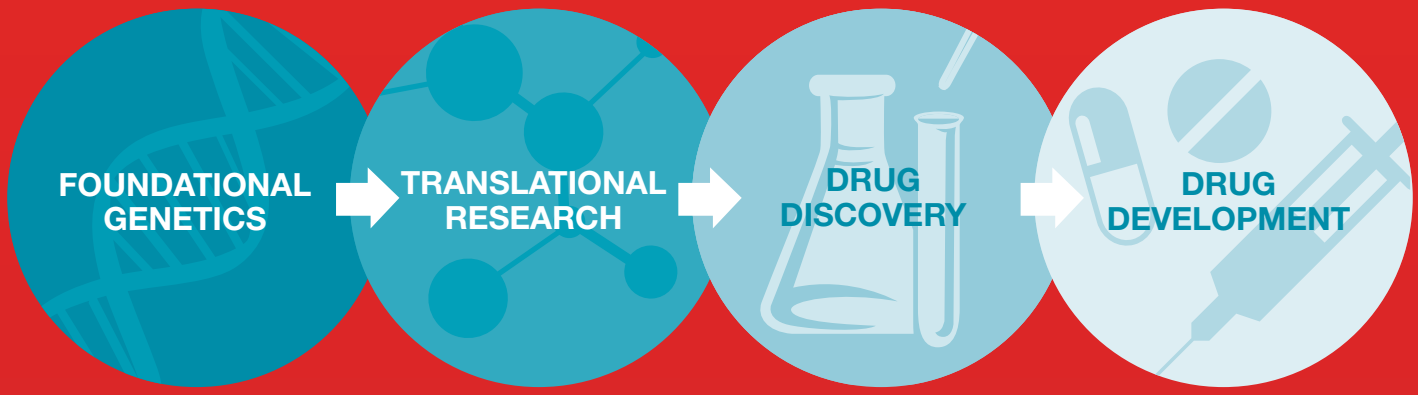
Of the currently identified Alzheimer's genes and candidate genes, 59 are being screened for mutations/functional variants in the Whole Genome Sequencing project, AGP's Phase 2. Of these, we will prioritize approximately 15 genes initially that fit three important criteria for immediate and thorough investigation:

1. High genetic impact or ranking in Alzheimer's pathology;
2. "Druggable," as defined by being in known biological systems and producing proteins that appear to be most readily accessed and modified by typically successful therapeutic agents, such as small molecules or biologicals, e.g., antibodies; and
3. Affect the most obvious intervention points, which include Abeta/plaque production and clearance, tangle formation/spreading and neuroinflammation.

RESEARCH ROADMAP

Cure Alzheimer's Fund is a research organization with a real plan to end Alzheimer's disease. Our unique funding strategy is 100 percent focused on finding a cure and supports the scientists doing the most innovative work to move knowledge of Alzheimer's pathology most expeditiously to prevention and cure. Our ultimate objective is to stop the disease before it even starts.

By addressing the problem at the root and finding the major causes of the disease, we already are accelerating developments of effective therapies. The projects we fund are based on our roadmap, which we believe to be the quickest way to a cure.



Find all genes that contribute to risk for or protection against Alzheimer's disease; prioritize those with the greatest impact

Discover what the previously known Alzheimer's genes can teach us about Alzheimer's disease pathology and determine the role of the newly identified genes

Determine which existing drugs or novel chemical compounds most safely and effectively disrupt the Alzheimer's pathology generated by the highest priority genes

Facilitate clinical trials of the most effective drugs by partnering with biotech firms or pharmaceutical companies to hasten drug development and approval

2014 RESEARCH PROJECTS

In 2014, Cure Alzheimer's Fund distributed **$5,358,913** for research supporting **23 projects**.

ROADMAP	PROJECT	RESEARCHER	INSTITUTION	GRANT
Alzheimer's Genome Project™				
	**Evaluation of Alzheimer's Disease Gene Candidates**	Rudy Tanzi, Ph.D.	Mass General/ Harvard University	$1,600,000
Whole Genome Sequencing				
	**Year 3, Whole Genome Analysis**	Rudy Tanzi, Ph.D.	Mass General/ Harvard University	$750,000
Stem Cell				
	**Patient-Derived Reprogrammed Neurons as a Model to Study Neurodegenerative Diseases in a Dish**	Marc Tessier-Lavigne, Ph.D.	The Rockefeller University	$100,000
	**Generation of iPS Cells and Neurons from Skin Fibroblasts from Subjects with Familial and Sporadic AD** Molecular, Biochemical and Functional Characterization of the Alzheimer's Disease iPS Cell Lines Identification of Transcriptional and Proteomic Profiles of Familial and Sporadic Alzheimer's Disease iPS Cells	Sam Gandy, M.D., Ph.D. Scott Noggle, Ph.D.	Icahn School of Medicine at Mount Sinai New York Stem Cell Foundation	$200,000
	**Identification of Functional Properties of Human Alzheimer's Disease Cells That Affect Their Bilateral Interactions with Brain Environment**	Tamir Ben-Hur, M.D., Ph.D.	The Hebrew University Hadassah Medical School	$100,000
	**Generation of Neural Progenitor Cells Overexpressing Alzheimer's Disease Genes with Familial Mutations and Analysis of Pathological Changes of Alzheimer's Cells in Vivo**	Doo Yeon Kim, Ph.D. Rudy Tanzi, Ph.D.	Mass General/ Harvard University	$100,000
Antimicrobial				
	**The Amylin Protein of Diabetes Mellitus is an Antimicrobial Peptide**	Robert Moir, Ph.D.	Mass General/ Harvard University	$300,000
Genes to Therapies™ (G2T)				
	**G2T Research Operations Management**	Wilma Wasco, Ph.D.	Mass General/ Harvard University	$135,650
	**G2T Research Models and Materials**	Taconic Biosciences Inc.		$310,000

ROADMAP	PROJECT	RESEARCHER	INSTITUTION	GRANT
Genes to Therapies (G2T)				
	**The Role of PICALM in Vascular Clearance of Abeta and Neuronal Injury**	Berislav Zlokovic, M.D., Ph.D.	University of Southern California	$250,000
	**Regulation of Tau Oligomerization by Interaction With TIA1, a Component of Stress Granules**	Benjamin Wolozin, M.D., Ph.D.	Boston University	$100,000
	**The Role of TREML2 in Alzheimer's Disease**	Marco Colonna, M.D.	Washington University, St. Louis	$100,000
	**Alzheimer's Disease-Associated Mutations in PKCα: Analysis of Aberrant Signaling Output**	Alexandra Newton, Ph.D.	University of California, San Diego	$100,000
Individual Projects				
	**High-Throughput Multiplex Real-Time PCR For CSF-Biomarker and MicroRNA Profiling in Alzheimer's Disease**	Lars Bertram, M.D.	Max-Planck-Gesellschaft	$72,355
	**Air Pollution and APP Processing**	Caleb Finch, Ph.D.	University of Southern California	$90,908
	**Characterizing the Role of LOAD-Associated Variants of DLGAP1 in Alzheimer's Disease**	Roberto Malinow, M.D., Ph.D.	University of California, San Diego	$100,000
	**FX11 System's Effect on Alzheimer's Disease**	Sidney Strickland, Ph.D.	The Rockefeller University	$100,000
	**GABAergic Inhibitory Efficiency and Adult Neurogenesis in the Hippocampus of Aged Ts65Dn Mice, a Model of 'Alzheimer's Disease in Down Syndrome,' After Chronic Treatment With the Monoacylglycerol Lipase Inhibitor JZL184**	William Mobley, M.D., Ph.D.	University of California, San Diego	$100,000
	**Myeloperoxidase, Imaging and Treatment Target for Alzheimer's Disease**	John Chen, M.D., Ph.D.	Mass General/ Harvard University	$100,000
	**Elucidation of the Molecular Target of Potent γ-Secretase Modulators**	Steven L. Wagner, Ph.D.	University of California, San Diego	$250,000
	**Orbitrap Fusion™ Tribid™ Mass Spectrometer**	Randall Bateman, M.D.	Washington University, St. Louis	$200,000
	**Molecular Mechanisms of Synaptic Plasticity in the Hippocampus: A Path to Novel Therapies**	Robert C. Malenka, M.D., Ph.D.	Stanford University	$100,000
	**Development of an APP-Specific β-Secretase Inhibitor for AD Therapy**	Lawrence Rajendran, Ph.D.	University of Zurich	$100,000
	TOTAL			**$5,358,913**

ALZHEIMER'S GENOME PROJECT™

Evaluation of Alzheimer's Disease Gene Candidates

Rudy Tanzi, Ph.D.
Mass General/Harvard University
$1,600,000

The goal of this project is to evaluate our new Alzheimer's disease (AD) gene candidates for effects on Alzheimer's pathology and related biological pathways, including APP processing, Abeta protein generation, tangle formation and cell death. These studies are being carried out as part of Phase II of the Alzheimer's Genome Project™ (AGP) and entail functional analyses of the Alzheimer's gene candidates identified in Phase I of the AGP. We have focused the Phase II studies on the novel Alzheimer's genes known as ADAM10, ATXN1 and CD33, all identified in 2008 as part of Phase I of the AGP.

The functional studies, aimed at understanding how these genes influence risk for Alzheimer's, are carried out in both cell-based and animal models. We have also performed genetic follow-up and functional studies for AD-associated aberrations in the human genome, known as copy number variants (CNV). This has led to the identification of several CNVs in novel Alzheimer's genes underlying the inheritance of cases of familial early-onset Alzheimer's that were not explained by the known early-onset Alzheimer's genes co-discovered by our lab in the 1980s and '90s (amyloid precursor protein, presenilin 1 and presenilin 2).

The knowledge gained from how the newly identified Alzheimer's genes (from Phase I) biologically increase or decrease risk for AD is being implemented to design new drug discovery efforts, also as part of Phase II of the AGP. Phase III of the AGP is being carried out parallel to Phase II and includes Whole Genome Sequencing of the human genomes of subjects from both early-onset and late-onset Alzheimer's families. The goal of Phase III of the AGP is to identify all of the biologically relevant functional gene variants that influence risk for AD. Once identified, these gene variants will be analyzed using similar methods to those described here for Phase II of the AGP. A detailed description of Phase III of the AGP can be found in the "Whole Genome Sequencing" research project description (below).

WHOLE GENOME SEQUENCING

Year 3, Whole Genome Analysis

Rudy Tanzi, Ph.D.
Mass General/Harvard University
$750,000

In this study, we will carry out Whole Genome Sequencing (WGS) of all subjects in the National Institute of Mental Health (NIMH) AD family sample (1,510 subjects; 437 AD families). We will identify functional DNA variants throughout the human genome that are inherited as risk factors for AD. We also will analyze DNA from brain samples of subjects who exhibited significant Alzheimer's pathology at autopsy, but never suffered from dementia; this will allow us to identify protective gene variants as well.

This study constitutes Phase III of the Alzheimer's Genome Project™. While Phases I and II informed us regarding which genes are implicated in risk for AD, this study will allow us to assess the entire human genome, including the 96 percent that is not made up of "genes," per se, but instead includes the DNA that regulates the activity of the genes. While the goal of Phases I and II was to identify all of the genes involved in susceptibility to AD, in Phase III, we will (1) determine all of the DNA variants in the Alzheimer's genes that directly influence risk for the disease; and (2) determine all of the DNA variants in the rest—the (intergenic) portions of the genome that regulate the activities of the Alzheimer's genes.

As in the past, we will use this information to determine exactly how each Alzheimer's gene (emerging from Phase I and II) functionally affects risk for the disease at the biological level. These findings then will be used not only to better understand the causes of AD, but also to guide drug discovery efforts to slow down, stop or, perhaps, even reverse the disease process.

STEM CELL PROJECTS

Stem cells are the least mature cells in the body. Because these cells are so immature, they can be treated with a defined cocktail of factors and, depending on which factors are used and in what sequence, those factors can cause maturation of cells along discrete cell types. With a new tool called induced pluripotent stem cells (iPS cells), it now is possible to take skin cells from adults and return them to this immature state. By redirecting skin cells from Alzheimer's patients and turning them into nerve cells, we are able to study adult Alzheimer's neurons (nerve cells) in the lab. These Alzheimer's neurons can be studied either in a dish or by transplanting them into the brains of host mice.

Together the Cure Alzheimer's Fund Stem Cell Consortium team—Drs. Tamir Ben-Hur, Kevin Eggan, Sam Gandy, Doo Kim, Scott Noggle, Rudy Tanzi and Marc Tessier-Lavigne—will develop, study and maintain Alzheimer's neurons that will be used to screen for new drugs. This "Stem Cell Bank" can be used by these and other researchers around the world to advance drug screening much more rapidly. The first targets for such screening will be drugs that already have been proven safe in humans. Other targets will include compounds developed specifically to interrupt Alzheimer's pathology. Most excitingly, new drugs will be based on new clues that will arise only from the study of these human Alzheimer's neurons.

Patient-Derived Reprogrammed Neurons as a Model to Study Neurodegenerative Diseases in a Dish

Marc Tessier-Lavigne, Ph.D.
The Rockefeller University
$100,000

AD is the most common form of dementia, affecting more than 5 million people in the United States alone; it is the sixth-leading cause of death and is expected to cost the nation around $226 billion in 2015, with costs projected to exceed $1.1 trillion by 2050. Currently, there is no cure for AD, nor are there effective treatments that delay or improve symptoms. Progress in understanding the underlying etiology and molecular mechanisms that cause progressive neuronal cell death has been hampered by a lack of research models that faithfully recapitulate the disease, including mouse models carrying genetic mutations that predispose humans to AD. The brief lifespan of mice (age of onset for Alzheimer's is usually older than 65) and intrinsic differences between mouse and human neuron physiology are two factors that likely contribute to the failure of mouse models. These obstacles were particularly difficult, or impossible, to overcome until recently.

Advances in stem cell technology have given researchers new hope by making it possible to study cultured human neurons derived from Alzheimer's patients' fibroblasts. Here, we will take advantage of these technological advances to examine neurons from patients carrying mutations in Microtubule-Associated Protein Tau (MAPT), which encodes the tau protein. Postmortem brains from a broad range of dementia patients, including Alzheimer's and frontotemporal dementia (FTD) patients, show altered tau biology that includes tau tangles and elevated levels of hyperphosphorylated tau. To determine how tau misregulation perturbs normal neuronal function and leads to neurodegeneration, we will perform a comprehensive biochemical and cell biological analysis of tau-mutant human neurons and compare to gene-edited isogenic controls. In addition to examining neurons longitudinally, we will assess changes that may occur in response to premature aging. Finally, we aim to determine whether tau is required for AP-induced toxicity in human neurons, as has been reported for mouse neurons, and whether MAPT mutations sensitize neurons to AP-induced degeneration. We expect this research to provide new insights into tau biology in AD and to potentially reveal novel disease mechanisms that could be beneficial for developing therapeutics for treating dementia.

Generation of iPS Cells and Neurons from Skin Fibroblasts from Subjects with Familial and Sporadic AD

Molecular, Biochemical and Functional Characterization of the AD iPS Cell Lines

Identification of Transcriptional and Proteomic Profiles of Familial and Sporadic AD iPS Cells


Sam Gandy, M.D., Ph.D.
Icahn School of Medicine at Mount Sinai
Scott Noggle, Ph.D.
New York Stem Cell Foundation
$200,000

Genetic approaches have provided major insights into the molecular pathogenesis of AD. However, only about 3 percent of all of AD is due to genetic mutations in either amyloid precursor protein (APP) or presenilin 1 or 2 (PSEN1, PSEN2). A particular promise for the recent success in differentiating skin fibroblasts into phenotypes of brain neurons provides an unprecedented and unequaled cell system for exploring AD pathogenesis in both familial and sporadic AD. We propose to generate a human *in vitro* model using iPS cells, in which the genetic and developmental aspects of familial and sporadic AD can be studied more accurately and therapeutic targets can be identified for subsequent drug discovery. The cell-type specificity of key AD risk molecules (e.g., apoE and astrocytes) dictates that the complete modeling of the AD brain in culture will require the generation of neurons and glia and the study of these cells in mixed cultures. Ultimately, we will transplant these neurons into mouse brains in order to study their molecular and physiological properties *in vivo*.

Identification of Functional Properties of Human Alzheimer's Disease Cells That Affect Their Bilateral Interactions with Brain Environment

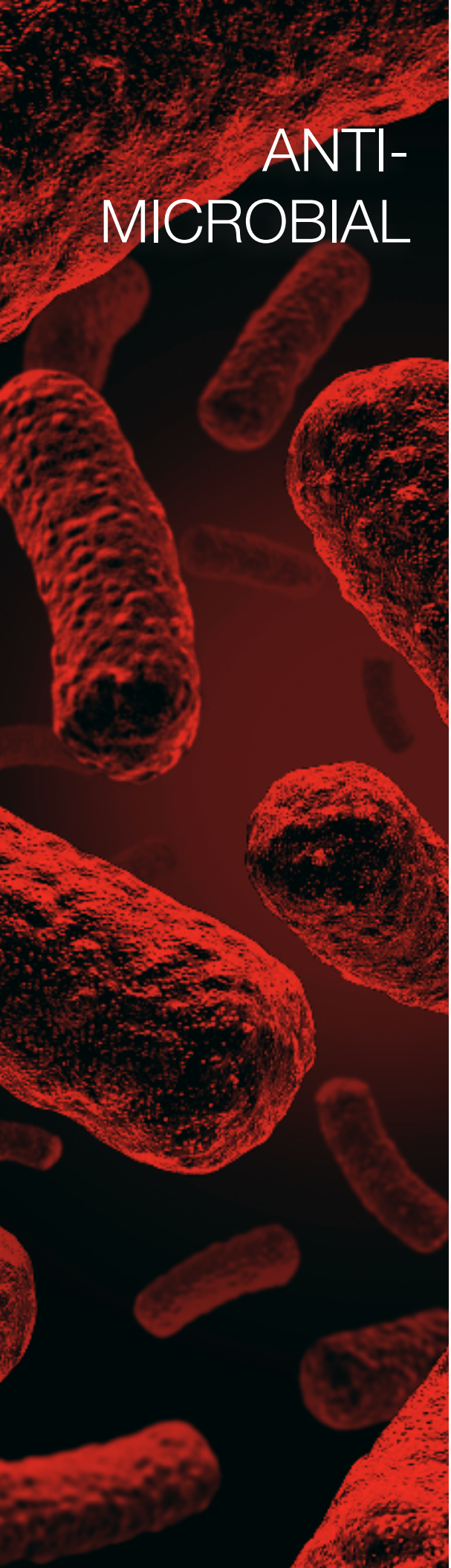
Tamir Ben-Hur, M.D., Ph.D.
The Hebrew University Hadassah Medical School
$100,000

We will complete the characterization of the protective effects of neural progenitor cell (NPC) transplantation in E200K mice. We will also examine the effect of NPC transplantation on the progression of AD in 5xFAD mice, and we will characterize various pathological features of disease, rate of neurodegeneration and behavioral tests. These experiments may show for the first time whether it is possible to slow down neurodegeneration, particularly in models that are relevant to human AD. To compare the functional properties of NPSs from wild type vs. 5xFAD mice *in vivo* and *in vitro*, we will examine the response of resident adult NPCs to injury *in vivo* and compare that of 5xFAD to wild type mice. We will also compare the immune-modulatory and neuro-trophic properties of NPCs from 5xFAD and wild-type mice both *in vitro* (by co-culture and gene expression assays) and *in vivo* (by their effect of neurogenesis). These experiments will indicate whether NPCs from AD mice display defective functional properties. Finally, we will study the therapeutic functions of NPCs from human familial AD backgrounds compared with normal NPCs (to be provided by Dr. Noggle). We will examine human NPC properties using both *in vitro* and *in vivo* assays, as described above.

Generation of Neural Progenitor Cells Overexpressing Alzheimer's Disease Genes with Familial Mutations and Analysis of Pathological Changes of Alzheimer's Cells in Vivo


Doo Yeon Kim, Ph.D.
Rudy Tanzi, Ph.D.
Mass General/Harvard University
$100,000

In year 2, we seek to evaluate the impact of candidate AD drugs on Abeta and tau pathology in human cellular AD models. In collaboration with Dr. Tanzi's laboratory (Massachusetts General Hospital), we will test the impact of select candidate AD drugs on both Abeta and tau pathology in the 30 human neural cell culture models developed in Aim 4. In the first year, we found that SGSM41i, a candidate AD drug designed to specifically decrease the toxic $Abeta_{42}$ generation, decreases not only the Abeta plaques but also the tau pathology in the 30 human cellular AD models. In the second year, we will test additional anti-Abeta drugs, including SGSM36, SGSM46 and SGSM49, which showed the higher potency in decreasing toxic Abeta species *in vitro*. We will test additional candidate AD drugs designed to block Abeta or Abeta-induced neuronal toxicity in the 30 human neural cell culture models. The overarching goal of this aim is to set up a unified platform that can be used for both studying the pathogenic mechanism of AD and evaluating target-based candidate AD drugs before human clinical trials.



The Amylin Protein of Diabetes Mellitus is an Antimicrobial Peptide

Robert Moir, Ph.D.
Mass General/Harvard University
$300,000

The goal of this project is to determine whether the amylin (IAPP) protein has a role in innate immunity (similar to Abeta) in order to significantly advance our understanding of the origins of diabetes pathology and its possible linkage to Alzheimer's disease.

The underlying cause of Type 2 diabetes mellitus remains unclear. In 1987, researchers found an important clue to the pathological mechanisms underpinning the disease—insoluble deposits of a small protein called amylin (IAPP) that form in pancreatic islets of those with diabetes. Proteinaceous deposits of this kind are known as amyloid and are a pathological hallmark of a number of common diseases, including AD. Different amyloid-forming proteins are associated with different diseases. However, amyloid-forming proteins often share physiochemical properties, and their associated diseases share overlapping pathologies. The similarities between IAPP and Abeta are particularly striking. Abeta is present in the brains and pancreatic islets of patients with diabetes. Both IAPP and Abeta are small, amphipathic molecules generated by cleavage of larger membrane-associated precursor proteins, and both bind the molecular chaperone apolipoprotein E. Abeta and IAPP also share another important similarity—despite two decades of intensive study, the normal non-pathogenic functions of these proteins are poorly understood.

Our laboratory recently advanced the novel idea that Abeta is part of the innate immune system and belongs to a family of proteins called antimicrobial peptides (AMPs). AMPs function as natural antibiotics to protect against invading pathogens. *In vitro* Abeta can inhibit the growth of at least eight clinically important pathogens. In addition, homogenates prepared from the brains of AD patients have specific Abeta-mediated antimicrobial activity. Preliminary data from our latest experiments show IAPP also has antimicrobial activity and inhibits the growth of the important human pathogens *Candida albicans* and *Listeria monocytogenes*. In initial tests, IAPP antimicrobial activity was equivalent to Abeta, although the peptide may target a narrower microbial spectrum.

Our discovery of Abeta's role in immunity identifies pharmacological manipulation of the innate immune system as a new and promising therapeutic strategy for treating AD. Strong epidemiologic evidence suggests an association between AD and Type 2 diabetes, but the critical pathological mechanism common to both diseases has yet to be identified. Our preliminary findings link, for the first time, the amyloid-forming proteins of these two disorders with a common non-pathological function as innate immune effector molecules.

We propose a project to investigate IAPP for a role in innate immunity using an experimental paradigm similar to that used in the study of Abeta. We think findings from this new line of inquiry may significantly advance our understanding of the origins of diabetes pathology and is potentially the basis for a new therapeutic strategy for curbing the rising diabetes epidemic.

GENES TO THERAPIES™

G2T

G2T Research Operations Management

Wilma Wasco, Ph.D.
Mass General/Harvard University
$135,650

As research operations manager for the G2T project, Wilma Wasco, Ph.D. will be responsible for facilitating communication among the various researchers, and managing and maintaining the core facilities and research materials, including specially engineered laboratory mice. She also will develop and maintain a G2T publications resource and provide the operations management necessary for this complex and unique undertaking.

G2T Research Models and Materials

TACONIC

Taconic Biosciences
$310,000

Taconic Biosciences GMBH, a global provider of genetically modified mouse models and associated services, is providing customized mouse models (transgenic, conventional/conditional knock out, conventional/conditional knock in) for each specific gene and type of mutation that will be studied in the G2T project.

The Role of PICALM in Vascular Clearance of Abeta and Neuronal Injury

Berislav Zlokovic, M.D., Ph.D.
University of Southern California
$250,000

PICALM, the gene-encoding phosphatidylinositol-binding clathrin assembly protein, plays a key role in endocytosis, a process that regulates the function of cell receptors and synaptic transmission. Several genome-wide association studies of AD have replicated the association of PICALM with AD and shown relationships with neurodegenerative processes underlying disease. Additionally, low levels of PICALM in brain and cerebral microvessels have recently been shown in late-onset AD. The role of PICALM in AD pathogenesis, however, remains elusive.

A genome-wide screen for modifiers of Abeta toxicity in yeast has identified the yeast homologue of PICALM and some other endocytotic factors as a functional link between Abeta toxicity, endocytosis and AD risk. PICALM also has been shown to protect neurons against Abeta toxicity by partially reversing Abeta toxic effects on endocytotic trafficking. During Year 1, we showed that PICALM plays a central role in the molecular mechanism regulating Abeta transcytosis and clearance across the blood-brain barrier (BBB). Using a human brain endothelial monolayer model of the BBB, we showed that PICALM binds to the cytoplasmic tail of LRP1 and is involved in clathrin-mediated Abeta endocytosis and transport of Abeta across the BBB controlled by Rab5 and Rab11 GTPases.

We next showed that PICALM deficiency diminishes Abeta clearance across the murine BBB *in vivo* and reduces clearance of soluble Abeta from the brain interstitial fluid (ISF) in APPsw/0 mice, accelerating Abeta pathology and cognitive decline. These findings have established that PICALM controls Abeta BBB transcytosis and clearance from the brain.

In Year 2, we propose to continue these studies and determine 1) the cell-specific role of PICALM in brain endothelium (Aim 1) and neurons (Aim 2) *in vivo* in relation to neuronal dysfunction and neurodegeneration within the Abeta pathway and Abeta-independent pathway using novel murine models of PICALM deficiency; and 2) the effects of novel PICALM mutations on Abeta BBB clearance using a human model of the BBB *in vitro*, in collaboration with Dr. Rudy Tanzi. For Aims 1 and 2, we will use PICALM lox/lox mice (generated by our collaborator Dr. Takahiro Maeda, Harvard Medical School) and will delete PICALM from endothelium and/or neurons to determine how these cell-specific deletions affect Abeta metabolism, BBB integrity, neuronal function and neurodegeneration. We will use Abeta clearance technique, multiphoton, confocal and light microscopy analysis, and MRI scans to evaluate brain structural and functional changes (tractography) as well as for BBB integrity and behavioral tests.

The proposed studies should advance our knowledge about the role of PICALM as a risk for AD and how novel PICALM mutations affect Abeta clearance and trafficking across the BBB. We expect that the present findings will identify PICALM as an important new therapeutic target for Abeta clearance, therapy and treatment of Alzheimer's neurovascular and neurodegenerative disorder.

Regulation of Tau Oligomerization by Interaction With TIA1, a Component of Stress Granules

Benjamin Wolozin, M.D., Ph.D.
Boston University

$100,000

Published work from multiple groups indicates that tau phosphorylation causes tau to mislocalize to the soma and dendrites, where TIA1 is present. Our preliminary data indicates the TIA1 binds the phosphorylated tau. Tau promotes formation of TIA1-based stress granules (SGs), and in the process, binding of tau with TIA1 stimulates tau misfolding. These data lead us to hypothesize that binding of tau protein to RNA-binding proteins stimulate their aggregation to form stress granules, which concomitantly consolidates misfolded tau, thereby providing the nidus for formation of tau pathology.

The link between tau and SGs is particularly important because primary dysfunction of RNA-binding proteins is known to cause neurodegenerative diseases, including amyotrophic lateral sclerosis and frontotemporal dementia. We hypothesize that secondary dysfunction of RNA-binding proteins, caused by tau-induced hyperactive stress granule formation, also causes neurodegeneration. This provides a clear mechanism through which tau pathology can elicit neurodegeneration and, if true, suggests that the interaction of tau with RNA-binding proteins plays a pivotal role in the pathophysiology of AD.

The Role of TREML2 in Alzheimer's Disease

Marco Colonna, M.D.
Washington University, St. Louis
$100,000

Recent genetic studies have demonstrated that a non-synonymous polymorphism of the cell surface receptor TREM-Like 2 (TREML2) is protective for AD. However, the function of TREML2 and its relationship to AD remain largely unresolved. Studies proposed in this application will provide the initial characterization of the expression and function of TREML2 in the human brain in AD and normal aging. Moreover, we propose the generation and the initial characterization of TREML2 knockout mice, which will provide an invaluable resource for us and other investigators in the field for future mechanistic studies. This project will provide neurologists and immunologists with valuable resources that may be crucial for understanding the pathogenesis of AD and harnessing TREML2 for new strategies of therapeutic intervention in AD.

Alzheimer's Disease-Associated Mutations in PKCα: Analysis of Aberrant Signaling Output

Alexandra Newton, Ph.D.
University of California, San Diego
$100,000

The goal of this project is to analyze how AD-associated mutations in a key signaling molecule, protein kinase C α (PKCα), alter its function. PKCα plays a pivotal role in tuning the signaling output of cells and, as such, is frequently mutated in human cancers. The Alzheimer's Genome Project™ led by Tanzi and colleagues has identified unique mutations in PKCα that co-segregate with AD in families with the disease. Our mechanistic insight into PKCa structure and function sets the foundation for understanding how these mutations alter the function of the enzyme to contribute to the pathogenesis of AD.

Corina Antal (foreground) and Julia Callender (background) working in the lab of Alexandra Newton, Ph.D.

INDIVIDUAL PROJECTS

High-Throughput Multiplex Real-Time PCR For CSF-Biomarker and MicroRNA Profiling in Alzheimer's Disease

Lars Bertram, M.D.
Max-Planck-Gesellschaft
$72,355

This project will fund the purchase of a high-throughput real-time PCR instrument that will allow to us to achieve two scientific goals:

- expand the ongoing projects on AD biomarker genetics to a large, newly recruited cohort of dementia patients and healthy controls for whom both CSF biomarker data (i.e., levels of Abeta, Abeta42, tau and phospho-tau proteins) and DNA samples already are available; and
- perform targeted, high-throughput microRNA (miRNA) and messenger RNA (mRNA) profiling in human brain samples to extend our laboratory's work on mapping the functional basis of disease-associated sequence variants. Both projects are tightly linked and likely will provide essential information for future AD biomarker studies.

Air Pollution and APP Processing

Caleb Finch, Ph.D.
University of Southern California
$90,908

We propose that urban traffic-derived nano-sized particulate matter (nPM, <0.1 um) in urban air pollution is a risk factor in AD by promoting amyloidogenesis. These experiments examine nPM-induced Reactive oxygen species (ROS) and pro-amyloidogenic APP processing.

In the search for environmental factors in AD risk and progression, more than five epidemiological studies have associated premature cognitive declines with air pollutants. Correspondingly, rodent models in ours and two other labs show increased Abeta in response to selected air pollutants. Because nPM increases ROS and Abeta, and because H_2O_2 can induce Abeta production, we will evaluate the relationship of Abeta to oxidative stress in responses to nPM. We focus on the olfactory neuroepithelium (O-NE), the initial neuronal contact with air pollutants, and the olfactory bulb (OB) that receives O-NE projections. *In vivo*, mice are given time-and-dose-controlled exposure to nPM, followed by analysis of O-NE and OB. *In vitro*, the O-NE will be exposed to nPM, in comparison with Neuro2a mouse neuroblastoma (N2a) cells carrying the Swedish-APP mutation, which respond to nPM with increased Abeta. We also will examine the potential of mitochondrial catalase (mCAT) for attenuating nPM-induced Abeta and ROS.

Characterizing the Role of LOAD-Associated Variants of DLGAP1 in Alzheimer's Disease

Roberto Malinow, M.D., Ph.D.
University of California, San Diego
$100,000

There is general agreement that Abeta is a likely causative agent in the development of AD. There is growing evidence that early in the disease, an important target of Abeta is the synapse, the site of communication between neurons. We have found that exposure of synapses to Abeta causes synaptic loss. In this proposal, we will examine the role played in this process by variant forms of synaptic proteins that have recently been identified by Dr. Tanzi in whole genome analysis of families with late-onset Alzheimer's disease (LOAD). We hypothesize that the rare variants confer synapses with higher sensitivity to Abeta, thereby facilitating development of AD.

FX11 System's Effect on Alzheimer's Disease

Sidney Strickland, Ph.D.
The Rockefeller University
$100,000

AD results in neuronal death in the brain leading to cognitive problems. The disease is complex and in most cases is thought to have multiple contributing factors. Two systems that have been implicated in AD are blood coagulation and inflammation, since many AD patients have increased blockage of small cerebral blood vessels and increased brain inflammation. In this regard, one arm of the blood coagulation system can promote both the formation of blood clots and the initiation of inflammatory processes. This arm is initiated by activation of the blood protein Factor XII (FXII).

We and others have found that Abeta, a small peptide important for the development of AD, can activate FXII. This activation could lead to coagulation and inflammation, both of which could contribute to the subsequent death of brain cells. In fact, we have found that AD patients have more FXII activation in their blood than age-matched, non-demented controls.

These results suggest that the FXII system could be a significant factor in some cases of AD. We will investigate this possibility by studying mouse models of AD, in which we can analyze and manipulate FXII and determine the effects on disease progression. If FXII contributes to the pathology of AD, it would open up new strategies for treatment of the disease.

GABAergic Inhibitory Efficiency and Adult Neurogenesis in the Hippocampus of Aged Ts65Dn Mice, a Model of 'Alzheimer's Disease in Down Syndrome,' After Chronic Treatment With the Monoacylglycerol Lipase Inhibitor JZL184

William Mobley, M.D., Ph.D.
University of California, San Diego
$100,000

Recently we observed that chronic suppression of monoacylglycerol lipase with the selective blocker JZL184 increased brain levels of endocannabinoid 2-arachidonoil glycerol (2-AG), restored long-term potentiation, improved cognition and reduced brain levels of Abeta40 and Abeta42 in aged Ts65Dn mice, a model of "Alzheimer's disease in Down syndrome" (ADDS). In this proposal, we plan to examine the mechanisms responsible for the restoration of cognition and synaptic plasticity in the ADDS model mice. We suggest that two types of changes resulting from JZL184-treatment may contribute synergistically to the improvements in cognition and synaptic plasticity: (1) an increase of the level of 2-AG may result in a reduction of efficiency of the inhibitory GABAergic neurotransmission and, possibly, in improvement of adult neurogenesis; and (2) the decrease of hippocampal levels of Abeta40 and Abeta42, which may reduce inhibitory efficiency and improve synaptic plasticity.

Working Hypothesis: Enhancement of synaptic plasticity and cognition in aged Ts65Dn mice by chronic blockade of monoacylglycerol lipase (MAGL) is caused by persistent alterations in properties of GABAergic synapses and changes in adult neurogenesis.

Myeloperoxidase, Imaging and Treatment Target for Alzheimer's Disease

John Chen, M.D., Ph.D.
Mass General/Harvard University
$100,000

AD is a challenging disease to diagnose and treat. Recent studies have shown that innate immunity and inflammation play key roles in the pathogenesis of AD. Myeloperoxidase (MPO) is a highly damaging substance secreted abundantly in inflammatory conditions by activated microglia and astrocytes. MPO has been associated with Abeta in both AD and animal models. MPO is more abundant in female AD patients and those showing cognitive decline, and also strongly is implicated in cardiovascular diseases, which can exacerbate AD. Our preliminary data showed that MPO activity can be inhibited in animals, and doing so improved outcome in murine models of neuroinflammatory diseases and AD.

As MPO is a key modulator of inflammation, and neuroinflammation is intimately associated with Abeta in animal models of AD and in human AD, the proposed project aims to establish MPO as a biomarker for early neuroinflammation and damage, and MPO inhibition as a new therapeutic strategy to decrease damage in AD. Given that neuroinflammation is an early event, MPO inhibition also could be useful for early intervention to prevent progression of disease at the first signs of cognitive decline prior to the onset of dementia in at-risk patients. Another key aspect of this proposal is the use of novel multimodal *in vivo* molecular imaging technologies to monitor the status of both MPO and Abeta noninvasively and longitudinally to assess treatment efficacy.

Elucidation of the Molecular Target of Potent γ-Secretase Modulators

Steven Wagner, Ph.D.
University of California, San Diego
$250,000

A promising series of soluble γ-secretase modulators (SGSMs) has been discovered in our lab at the University of California, San Diego, in collaboration with Massachusetts General Hospital, which inhibit the formation of the aggregation-prone Abeta42 peptide in favor of shorter, less pathogenic Abeta isoforms. Despite the development of numerous potent SGSMs, the molecular target and the mechanism of action remain unknown.

We propose the synthesis of three distinct clickable SGSM-photoprobes for cross-linking studies to demonstrate the binding site of these ligands within the γ-secretase enzyme. Additional experiments will be conducted using novel Abeta substrates in order to evaluate the mechanism by which SGSMs affect the processivity of γ-secretase. This research will identify the critical sites of interaction between the SGSMs and their molecular target, as well as provide valuable information toward the development of more potent and selective compounds.

In addition, evaluating the processivity of γ-secretase will enable a critical understanding of the mechanism by which the SGSMs selectively attenuate the production of the pathogenic Abeta42 peptide and enrich our fundamental understanding of this enigmatic enzyme. A subset of these studies will directly test the processivity model of γ-secretase activity. Collectively, these studies serve to identify the target and mode of action of our novel SGSMs, with the goal of discovering potential therapeutic agents for AD treatment.

Orbitrap Fusion™ Tribrid™ Mass Spectrometer

Randall Bateman, M.D.
Washington University, St. Louis
$200,000

The proposed grant will assist in the purchase of an Orbitrap Fusion™ Tribrid™ Mass Spectrometer system to enable the development of a method to assess tau production and clearance rates in humans, animal models and *in vitro* experiments. This cutting-edge mass spectrometer system will provide more precise measurements with the ultra-low abundance of biomolecules of interest than current instruments can quantify. This will allow the measuring of tau kinetics for the first time, enabling evaluation of tau-directed therapeutics in animal models, tau kinetics in humans (e.g., AD) and tau isoforms in stem cells, as well as understanding the effects of genetic risk factors related to tau metabolism. This system will support investigators at Washington University, St. Louis (Cure Alzheimer's Fund member Dr. Holtzman as well as other Washington University investigators) and other CAF members around the country as opportunities arise. Further, this system will enable plasma Abeta kinetics to be measured. This will address central issues in Abeta transport from the brain to the blood and also help to determine whether peripheral kinetics can indicate brain amyloidosis.

The Stable Isotope Labeling Kinetics (SILK) approach has been adopted both in the academic field of neurodegeneration and in the commercial sector. The Orbitrap Fusion™ Tribrid™ Mass Spectrometry system will enable the development and application of novel discoveries in Abeta, tau and related AD proteins in addition to basic discoveries in the kinetic metabolism of tau *in vivo* in both humans and animal models. The major limitation to the adoption and use of SILK is the technological hurdle in accurate mass spectrometry measurement of labeled biomolecules. The Orbitrap Fusion™ Tribrid™ Mass Spectrometry system is the only system to demonstrate the capability to quantify very low abundance labeled biomolecules (attomole quantitation) with very low (<1 percent) labeling. This resource will provide accurate, high-throughput mass spectrometry analysis for tau SILK studies.

Compared with brain and cerebrospinal fluid (CSF) Abeta, tau and peripheral Abeta biology and pathophysiology in AD is far less understood. Importantly, tau levels in CSF correlate more closely with cognitive decline in AD patients than Abeta, and CSF tau and Abeta are critical biomarkers in precisely predicting the order and magnitude of pathologic processes in AD. Therefore, we believe that determining the tau metabolism in AD is the next critical step in the AD research field to improve future clinical trial designs and to develop an early AD detection test. Tau is predominantly an intracellular protein, but recent studies suggest it also is released into the extracellular space, where it may be involved in spreading tau pathology to remote brain regions. Many studies have shown that tau and phosphorylated tau amounts are increased in AD, but the mechanism of tau production or clearance is not known. Elucidating tau metabolism would greatly enhance our basic knowledge of tau biology as well as our understanding of the tau's role in AD pathophysiology.

Molecular Mechanisms of Synaptic Plasticity in the Hippocampus: A Path to Novel Therapies

Robert C. Malenka, M.D., Ph.D.
Stanford University
$100,000

There is strong evidence suggesting that AD is caused in large part by the accumulation of a toxic protein called Abeta in the brain. If scientists can understand in great molecular detail the very early steps of how Abeta accumulation impairs brain function, it will be possible to develop therapies that prevent these steps. One of the earliest effects of toxic forms of Abeta is to impair the ability of the connections between nerve cells, termed synapses, to modify their own properties in response to changes in the patterns of brain activity. This synaptic plasticity, in particular in a brain region called the hippocampus, is thought to be critical for learning and memory, and thus impairments in synaptic plasticity in the hippocampus likely account for many of the early and late symptoms of Alzheimer's.

While some of the molecular mechanisms underlying synaptic plasticity in the hippocampus have been elucidated, much is not known. My laboratory has developed novel approaches to the study of one form of synaptic plasticity, termed long-term potentiation (LTP), which seems to be particularly important in AD, in that toxic forms of Abeta inhibit the mechanisms normally responsible for this plasticity. This impairment of

LTP likely contributes to the cognitive impairment in AD's early stages as well as the eventual physical shrinkage and eventual loss of synapses. This research project will use sophisticated molecular, electrophysiological and imaging techniques to further elucidate the detailed molecular mechanisms of LTP in the hippocampus focusing on two proteins that have been genetically or biochemically associated with Alzheimer's. We will molecularly manipulate these different synaptic proteins in individual nerve cells and define their specific roles in LTP. Importantly, we will express mutated versions of these proteins and determine whether this prevents the detrimental effect of toxic species of Abeta on synaptic function and plasticity. The results of these experiments will provide novel proteins and mechanisms that can be targeted for treating AD by preventing the very changes in the brain that lead to its devastating symptoms.

Development of an APP-specific β-secretase Inhibitor for Alzheimer's Disease Therapy

Lawrence Rajendran, Ph.D.
University of Zurich
$100,000

Developments of disease-modifying therapeutics that can slow or ultimately halt disease progression are needed urgently for treating AD. To date, all anti-amyloid measures to treat AD have failed. A commonly drawn conclusion is that amyloid is the wrong target, but most of the amyloid-reducing approaches—including targeting the amyloid-producing enzymes—have side effects. An attempt to develop a specific therapy with minimum mechanism-based side effects is proposed here. AD is characterized by the deposition of Abeta peptides, the production of which is initiated by beta-Secretase (beta-site APP-cleaving enzyme 1; BACE1). Hence it is a prime target for AD therapy.

Full or partial deletion of BACE1, although it provides prevention of the development of AD-like pathologies and memory impairments in different lines of APP transgenic mice, is also associated with specific behavioral and physiological alterations in mice, which are likely to be caused by failure in the physiological processing of various substrates. General inhibition of BACE1 might be associated with mechanism-based side effects as BACE1 mediates its various physiological functions through the processing of different substrates. An APP-specific BACE1 inhibitor has the potential to specifically inhibit Abeta production without inhibiting the processing of other substrates. Therefore, studying the biology of these substrates—examination of their structural, molecular and biochemical properties—is essential for designing a BACE1 modulator.

In this work, we propose to study the BACE1 cleavages of three newly identified substrates, namely Neuregulin, and neural cell adhesion molecules CHL1 and L1. Biochemical, structural and cell biological examinations of the substrates will be performed to determine the affinity, cleavage efficiency, subcellular site of their beta-cleavage and sorting determinants. Our preliminary analysis of NRG1 cleavage suggests that BACE1 binds NRG1 with higher affinity and cleaves it with a higher catalytic efficiency than APP. As a result, BACE1 processing of NRG1 probably occurs in the biosynthetic compartment similar to the processing of the Swedish mutant of APP. Consistently, inhibition of endocytosis did not affect Neuregulin cleavage but did that of APP. This suggests there are two pools of BACE1 in the cell: one the endosomal pool of BACE1, responsible for APP cleavage, and the other the non-endosomal pool, cleaving high-affinity substrates such as NRG1. Exploiting this observation, we would like to check if endosomally targeted BACE1 inhibitors or anti-BACE1 ectodomain antibodies can specifically inhibit endosomal BACE1 cleavage of APP and thus spare those of NRG1, CHL1 and L1. Such therapies would reduce amyloid burden without much side effect from BACE1 inhibition.

OUR SCIENTIFIC LEADERSHIP

Research Consortium

The volunteer members of the Research Consortium develop and update a "roadmap for research" for the most effective and efficient route to slowing, stopping and/or reversing Alzheimer's disease. Members contribute their own research projects consistent with that roadmap, as well as recruit others whose work will hasten development of effective therapies for and prevention of Alzheimer's disease.

Rudolph Tanzi, Ph.D., RC Chairman; Harvard Medical School/Mass. General Hospital

Sam Gandy, M.D., Ph.D., Icahn School of Medicine at Mount Sinai

Charles Glabe, Ph.D., University of California, Irvine

David Michael Holtzman, M.D., Washington University, St. Louis

Richard L. Huganir, Ph.D., Johns Hopkins University School of Medicine

Virginia M.-Y. Lee, Ph.D., M.B.A., University of Pennsylvania

Roberto Malinow, M.D., Ph.D., University of California, San Diego

Eric Schadt, Ph.D., Icahn School of Medicine at Mount Sinai

Sangram Sisodia, Ph.D., University of Chicago

Robert Vassar, Ph.D., Northwestern University

Steven Wagner, Ph.D., University of California, San Diego

Berislav Zlokovic, M.D., Ph.D., University of Southern California

Scientific Advisory Board

Members of the Scientific Advisory Board (SAB) are invited independently of the Research Consortium to provide advice and counsel to Cure Alzheimer's Fund regarding the overall scientific soundness of the roadmap and to review individual grant proposals for consistency with the roadmap and with the objectives of Cure Alzheimer's Fund.

John C. Mazziotta, M.D., Ph.D., SAB Chairman; University of California, Los Angeles

Dennis Choi, M.D., Ph.D., Stony Brook University

Caleb Finch, Ph.D., University of Southern California

Paul Greengard, Ph.D., The Rockefeller University

John S. Lazo, Ph.D., University of Virginia

Robert C. Malenka, M.D., Ph.D., Stanford University

William Mobley, M.D., Ph.D., University of California, San Diego

Thomas Südhof, M.D., Stanford University

Marc Tessier-Lavigne, Ph.D., The Rockefeller University

Full bios available online at curealz.org/research/researchers

OUR RESEARCH INFLUENCE

Cure Alzheimer's FUND finances high-potential research, some of it in the "proof of concept" stage, which might not be funded initially by the National Institutes of Health or other funders. This "pump priming" is proving increasingly successful, as more of our early-stage grants are leveraged into more substantial and longer-term funding. Another indicator of success is the number of peer-reviewed papers that Cure Alzheimer's Fund researchers have published, and the number of times those papers have been cited by other investigators.

For a full listing of published papers supported by Cure Alzheimer's Fund, see **curealz.org**.

OUR MODEL IS WORKI

Through venture-based principles and philanthropy, Cure Alzheimer's Fund (CAF) catalyzes research with the highest probability of slowing, preventing or reversing Alzheimer's disease (AD).

Ten years ago, our founders Henry McCance, Phyllis Rappaport, and Jeff and Jacqui Morby leveraged their experience in venture capital and corporate start-ups to build a new, venture-based Alzheimer's research fund designed to dramatically accelerate research, make bold bets and focus exclusively on finding a cure.

Our Research Consortium is an all-star team of scientists working at premier research institutions across the country, regularly conferring with one another on their progress, discussing impediments to their research and continually sharing their data.

Since its founding, Cure Alzheimer's Fund has contributed more than **$28,021,000** to research, and its funded initiatives have been responsible for several key breakthroughs. We've created "Alzheimer's in a Dish," which was featured in a front-page story in The New York Times, confirmed the amyloid hypothesis and started our ambitious Genes to Therapies™ (G2T) program.

Cure Alzheimer's Fund supports some of the best scientific minds in the field of Alzheimer's research, and it does so without any financial gain for its founders, donors or researchers. Fully 100 percent of funds raised by CAF go directly to research – the board covers all overhead expenses.

Our goal is to stop AD through early prediction, prevention and effective intervention in those patients who have become symptomatic. Please join us in the quest for a cure.

100%

of all funds raised by Cure Alzheimer's Fund go directly to research.

The Board covers **ALL** overhead expenses.

NG

Since we began in 2004,

our more than
$28,021,000
investment

has resulted in more than
$41,214,000
in NIH grants,

for a total of more than
$69,235,000
going to Alzheimer's disease research.

2014 grant recipients include*:

- Zhongcong Xie, M.D., Ph.D., General Anesthetics and Alzheimer's Disease project, received 2 R01 grants from NIA and NIGMS
- Rudy Tanzi, Ph.D., 3D Cell Culture project, received JPB Foundation funding
- Lab of Marc Tessier-Lavigne, Ph.D., Stem Cell Consortium project, received NYSCF Druckenmiller postdoctoral fellowship

*As reported by Cure Alzheimer's Fund-funded researchers.

Ten Years of Commitment to the Fight to End Alzheimer's

Message from the President

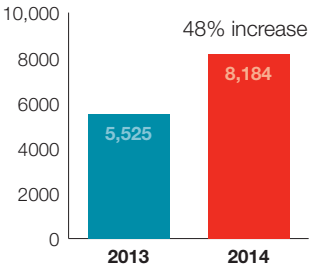
Tim Armour, President and CEO, Cure Alzheimer's Fund

Dear Friends:

Cure Alzheimer's Fund turns 10 years old this year. When the founders, their friends and family, a small staff, and a few researchers began this effort 10 years ago, we wanted to help—to speed the painfully slow pace of progress against one of the most personally tragic and economically disastrous diseases plaguing our time. We knew it would be a struggle, and although we had good plans and strategies in place, we frankly never dreamed that we would be approaching $50 million raised in a single decade. The impact of the research we have funded has been greater than we could have imagined.

Thanks to the generosity of more than 17,100 donors over those 10 years, the constancy of those who started this journey with us, the commitment of those who have joined since and the dedication of the researchers who are tirelessly attacking this disease, we have made significant progress.

Growth in Number of Donors



2014 was truly a landmark year. An increase of 48 percent in the number of donors translated to over 47 percent more dollars in 2014 than in 2013. This increase in support helped to fuel a 17 percent growth in the amount of money we could put to work in 23 new and continuing research programs.

This surge in support is gratifying to all of us, but particularly to the researchers whom it supports. They have used the money well. Since the inception of Cure Alzheimer's Fund 10 years ago, we can now attribute over 160 papers published in high impact peer-reviewed journals, over 10,000 citations by other researchers of those papers and more "follow-through" grants from much bigger entities such as the National Institutes of Health (NIH) and other major funders to move the good, innovative ideas we have funded into strong drug development programs.

As described in Jeff's and Rudy's letters (pages 1 and 3), research progress has been impressive and important. Since our founding, we have sought to support science that would uncover the true origins of Alzheimer's disease (AD) and how it progressed through the brain and body. We have funded very basic research into how the synapses in the brain

work, what genes and proteins contribute to the pathology and how, and more recently, work based on these findings, to move toward therapeutic interventions at several points in the pathology's progression.

The entire Alzheimer's research field is much closer to developing effective therapies now than it was 10 years ago. So many attempts to develop drugs for Alzheimer's have failed, but we have learned from them and have developed new technologies for investigations. Most promising of all, we are seeing a growing consensus about the causes of the disease, how it progresses and how to stop it.

We are not there yet. And we can make no promises about when we will get there. What we can promise is that without the continued support of so many people and the additional support of many more, the skill and dedication of researchers around the world will be for naught. Those 17,100+ donors to Cure Alzheimer's Fund have created immense momentum. We can't stop now.

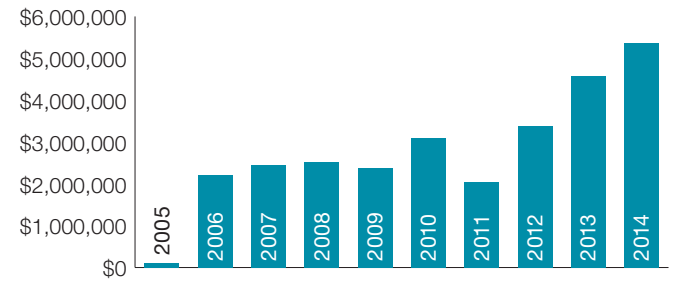
Ten years old this year: much good will and good work to celebrate, and many, many people to thank. But as long as there are families burdened with this terrible disease, and as long as hope and relief lie only in the future, our work must continue.

With thanks to those who have made all this possible, and on behalf of the 60 researchers those people have supported over 10 years, we take pride in the past and look forward to greater progress ahead.

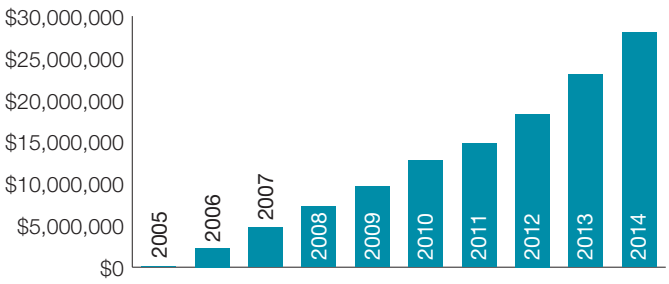
Sincerely,

Tim Armour
President and CEO

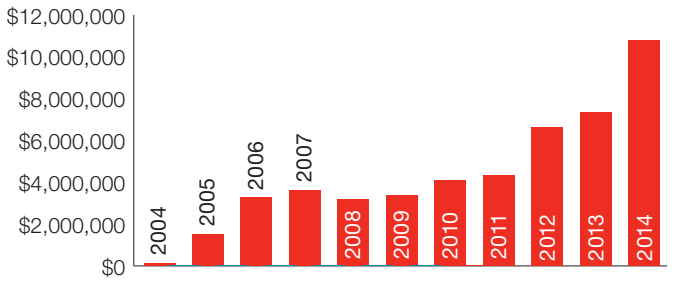
Annual Research Grants



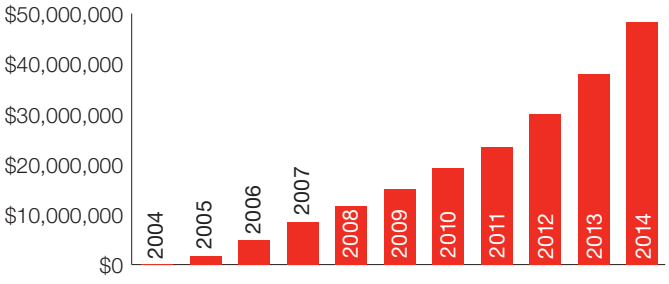
Cumulative Grant Totals



Annual Donation Trends



Cumulative Donation Totals



Funding Our Vital Research

- In addition to contributing to research, the Cure Alzheimer's Fund Board pays 100 percent of CAF's operating expenses. All third-party donations go 100 percent to research.
- CAF does not support overhead or indirect costs at recipient institutions.
- CAF keeps all funds in cash equivalents. Because the objective is to move money from donors to research as quickly as possible, CAF has no endowment or investment fund.
- CAF funds only projects approved by its Scientific Advisory Board. While proposal approval is streamlined to facilitate a focus on results rather than process, scientific integrity is CAF's top concern.
- CAF has a history of "clean" audits. CAF's IRS Form 990 and audited financial statements are available online at curealz.org.
- For the fourth consecutive year, Cure Alzheimer's Fund has been awarded the highest rating for sound fiscal management and commitment to accountability and transparency by Charity Navigator, the country's largest evaluator of charities.

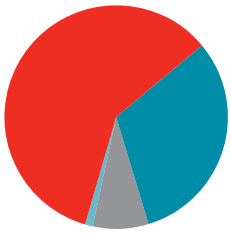
2014 FUNDRAISING

In 2014, Cure Alzheimer's Fund (CAF) received financial support from individuals, corporations and foundations in the amount of $10,798,242 from 8,184 donors in cash and in-kind revenues.

Source of Funds

Source of Funds	$	%
Individuals	6,422,906	59.5%
Board	3,336,476	30.9%
Foundations/ Trusts/Bequests	908,261	8.4%
Corporations	109,239	1.0%
Donated Goods and Services	21,360	0.2%
Government	—	0%
Total	**$10,798,242**	**100%**

Source: Internal records, December 31, 2014

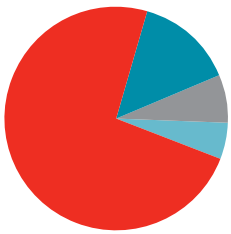


Source of Funds

Use of Funds

Use of Funds	$	%
Distribution to Research (grants)	5,351,659	73.2%
Programs	1,055,767	14.4%
Management and General	518,867	7.1%
Fundraising	385,883	5.3%
Total Expenses	**$7,312,176**	**100%**

Source: Audited Financial Statements, December 31, 2014



Use of Funds

2014 FINANCIALS (Year ended Dec. 31, 2014)

Statement of Financial Position

ASSETS	
Cash and cash equivalents	10,279,770
Restricted cash, documentary project funds (temporarily restricted)	104,857
Restricted cash, family reunion funds (temporarily restricted)	3,150
Contributions receivable and undeposited funds	714,161
Pledges receivable (temporarily restricted)	3,124,815
Deposits – donor-advised funds	8,784
Fixed assets, net	7,932
Other assets	30,923
TOTAL ASSETS	14,274,392
LIABILITIES AND NET ASSETS	
Liabilities	
Accounts payable and accrued expenses	224,089
Total liabilities	224,089
Net assets	
Unrestricted	10,817,481
Temporarily restricted	
Pledges receivable	3,124,815
Family Reunion	3,150
Documentary project	104,857
Total temporarily restricted	3,232,822
Total net assets	14,050,303
TOTAL LIABILITIES AND NET ASSETS	14,274,392

Statement of Activities

UNRESTRICTED NET ASSETS	
REVENUE AND OTHER SUPPORT	
Contributions	9,984,159
Net assets released from restrictions (pledges)	750,000
Donated services	21,360
Investment income	383
Realized gain (loss) on sale of stocks	11,037
Unrealized gain (loss) on donor advised funds	1,842
Net assets released from restrictions (documentary project)	87,231
TOTAL REVENUE AND OTHER SUPPORT	10,856,012
EXPENDITURES	
Program expenses:	
Grants	5,351,659
Documentary program expenses	87,231
Other program expenses	968,536
Total program expenses	6,407,426
Management and general	518,867
Fundraising	385,883
TOTAL EXPENDITURES	7,312,176
INCREASE IN UNRESTRICTED NET ASSETS	3,543,836
TEMPORARILY RESTRICTED NET ASSETS	
Pledge contributions, net	2,653,450
Family Reunion contributions	3,150
Net assets released from restrictions	(837,231)
INCREASE IN TEMPORARILY RESTRICTED NET ASSETS	1,819,369
CHANGES IN NET ASSETS	5,363,205
NET ASSETS, beginning of year	8,687,098
NET ASSETS, end of year	14,050,303

From the 2014 audited financial statements which, along with IRS Form 990, are available online at curealz.org.

A SPECIAL THANKS TO OUR HEROES

Thanks to all of you who have devoted your time, energy and resources to supporting Cure Alzheimer's Fund. You organized races, golf and tennis tournaments, music festivals, film screenings, theatrical performances, and more, all to raise money for Alzheimer's research. Once again, your efforts were a huge success – together you raised more than $387,000 in 2014!

"Alzheimer's is a scary disease. I wish someone would find a cure so that other families wouldn't have to go through what we're going through… Every dollar is a step closer to a cure."

—Charline Kim (Birthday Fundraiser) pictured with her grandmother

"The greater the connection to your cause and the more challenging the endeavor, the more rewarding it is."

—Josh Akman (left) pictured with Mike & Paula Curren, and Jake Akman (Dick Hollander Open)

"The disease affects so many people's lives, so I ran to find a cure. Hopefully I'll be able to keep it up for many years."

—Kim Chan (Orange County Half-Marathon)

"I have a platform where I can raise awareness for different causes, and it's my responsibility to do something good with that platform. I help charities by donating an advertising spot on my shorts for free. I always want to help people who are struggling. This is my way."

—Quentin "The Hero" Henry (left) (MMA fighter)

"I am very frustrated with the lack of progress to properly fund Alzheimer's research and support caregivers. I want to raise awareness by climbing the world's hardest mountain to fight the world's hardest disease."

—Alan Arnette (K2 Summit)

"Anyone who has experienced a loved one suffering with Alzheimer's knows how difficult it can be, not just for that person but for those around them. I love that Cure Alzheimer's Fund is taking an aggressive approach to finding a cure instead of just managing the disease. And I'm glad I could do my small part in helping this cause."

—Steve Kaneko (middle) with his parents, George and Sybil, 1996. (Microsoft Achievement Award)

"Years ago, cancer was a disease that no one talked about. But now most cancers have a high survival rate, if you catch it early. That's the difference it can make when you make noise. No one wants to talk about Alzheimer's. But we have to. Whatever time I have left I'm going to put into helping fight Alzheimer's, because it is such a horrible, horrible disease."

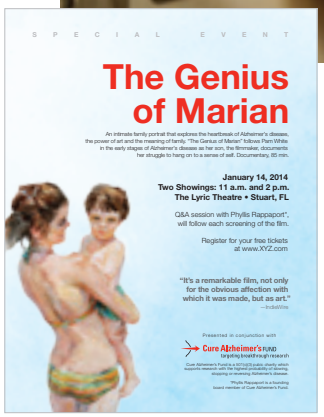
—Gail Matthews (Author of *Did I Die?*) pictured with Glenn Matthews, 2012

OUR 2014 EVENTS

Cure Alzheimer's Fund (CAF) offers free educational opportunities to the public with an annual symposium and Alzstream™ webinars.

In addition, CAF Co-Founder Phyllis Rappaport organized a Wellness Day at the Willoughby Golf Club in Stuart, Fla. Rudy Tanzi, Ph.D. gave a talk to a full house of 120 attendees, followed by a lively Q&A session.

L to R: Jerry and Phyllis Rappaport; Allan Mostoff, co-chair of Willoughby Wellness Luncheon; Dr. Rudy Tanzi; Sally Rosenfield and Neil Fitzgerald, chair of Willoughby Wellness Day.



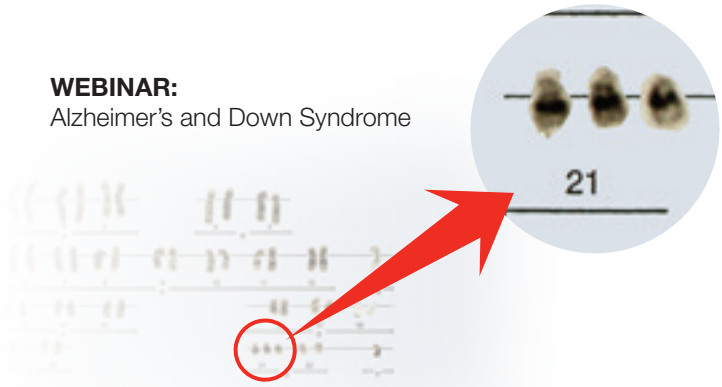
We also hosted screenings of "The Genius of Marian," a documentary film examining the effect of Alzheimer's disease on a patient and her family. The film was shown in Boston, Mass., and Stuart, Fla.

WEBINAR:
Mission Critical: Save the Synapses

Senator Ed Markey (D-MA) and CAF chairman and co-founder Jeff Morby discuss our public-private partnership.

WEBINAR:
Our Partnership with the U.S. Government for Alzheimer's Research

WEBINAR:
Alzheimer's and Down Syndrome



Celebrating a Decade of Research

In October, more than 250 people gathered at the Harvard Club in Boston to celebrate Cure Alzheimer's Fund's 10 years of leading Alzheimer's research, hear the latest progress on finding a cure, and honor Charles Collier, Alzheimer's advocate and former senior philanthropic adviser to Harvard University. Jeff Morby, CAF co-founder, gave the opening remarks, and Rudy Tanzi Ph.D., chairman of CAF Research Consortium, gave a presentation on our approach and the state of Alzheimer's research today.

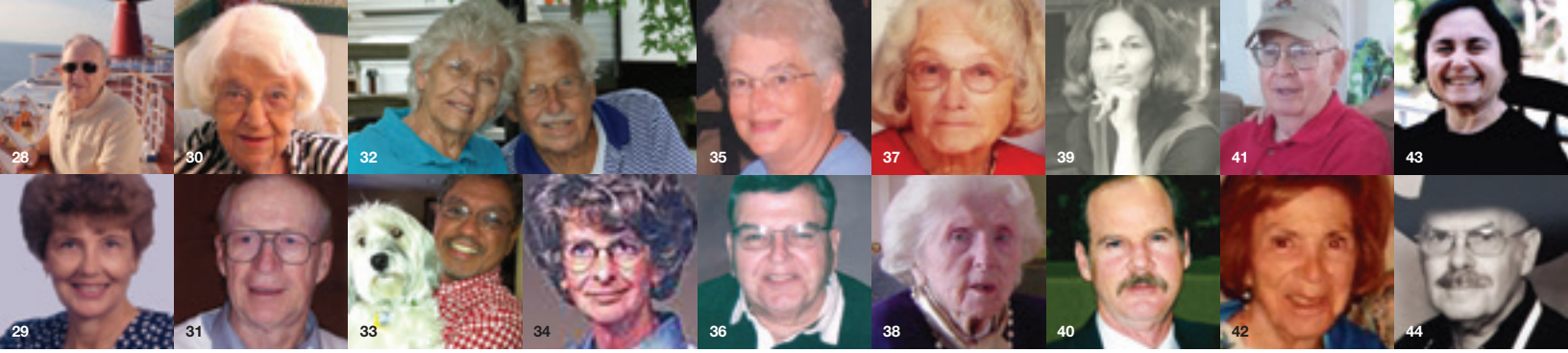
IN HONOR AND IN MEMORY

Cure Alzheimer's Fund received gifts in honor or in memory of the following in 2014:

Aasheim, Jerry
Abbe, Bob
Abigail, Alice
Acampora, Ray
Acton, Helen
Adam, Robert
Adams, Alberta
Adams, John
Adams, Marlene C. Reinhardt
Adler, Harry
Ahmann, Catharine
Ainsworth, Betty
Akkus, Michael Clemens and Selvin
Akman, Jake and Josh
Albrecht, Beverly
Albritton, Vera Bigger
Albus, William
Alex, Barbara
Alexander, Paule
Allen, Cheryl
Allen, Mary
Allen, Nancy
Allen, Williamina Bell
Alley, Florence
Allison, Ruth
Alpert, Harold
Alred, Berna
Alvaney, Margaret
Ambrose, Venia
Amirjavadi
Ammerman, Tom
Amodeo, Ray
Andersen, Claude Bert
Anderson, Bill
Anderson, Stella
Andico, Palma
Andresen, Jack
Andrews, Carol
Andrews, Ross
Arbanas, Richard
Arcenaux, Donald
Arche, Adam and Clair
Armao, Josephine
Armstrong, Rebecca
Arnold, Elysie
Arsenault, Beatrice
Arvin, Agnes
Auestad, John
Augenblick, Milton
Ault, Ada **48**
Auskern, Rlva
Auslander, Sarah Syd
Austin, James
Avestad, John
Ayala Jr., Antonio
Ayres, Marcolina Rasti
Azzaro, Florence
Bade, Werner
Bagley, Richard
Bahash, Robert and Carol
Bailey, Dora
Baim, Lillian
Baker, Anna
Baker, Mary Kay Fehn
Baker, Virgil
Balakrishnan, T. P.
Baldridge, Joan
Bana, Josefina
Banks, Betty
Baptiste, Anne Marie Bretoux **4**
Barber, Randy
Barber, Thurston
Barbery, Trudy
Bare, Cassie
Barnes, Joan
Barnes, Josephine
Barnes, Margaret
Barnhart, Patricia
Baronfeld, Elsie
Baroutsis, Paul
Barrows, Betty
Barsachs, Barbara **55**
Barton, Irma
Battaglia, Joseph
Battista, Rocco Angelo
Bauer, Bruna
Bauer, Edwin Joseph
Bauer, Fred
Bauer, William
Bauman, Rita
Baumrind, Lydia
Bayless, Julia and Anthony
Bayley, Anne **6**
Bayona, Alex **33**
Beach, Lucille
Beaton, Shirley
Bechamps, Beverly
Beck, Malcolm
Bedore, John
Beer, Nancy
Beeson, Debra
Beeson, S. Benjamin
Belcher, Prescilla
Bell, Ann
Bell, Bethany
Bella, Elizabeth
Bender, Loretta, Mary O'Meara and Isabelle Von Rohr
Bender, Robert A.
Bennett, David
Ben's grandfather
Benson, Bette
Berberian, Susan
Berendson, Neil
Berenson, Irv
Berkman, Arnold
Berkwitt, Jean
Berleth, Frank
Berman, Esther
Berman, Harold
Beveridge, Cecelia
Beveridge, David
Beyer, Liberty
Big
Bird, Alan
Bishop, Geraldine
Black, Marie **9**
Black, Mildred
Black, Rosie
Black, Shirley
Black, Thomas
Black, Winfred
Blackshaw, Thomas
Blankinship, Billie Jean
Blevins, Ballard John
Blevins, Lois
Blevins, Peggy
Blitstein, Alan
Block, Howard Hod
Bloomstein, Joseph S.
Bluemel, James **32**
Blumberg, Allen
Bobit, Patricia
Bodenstab, Eric
Bollich, Willa Dean
Bonagura, Veronica
Bonavia, Charles
Bond, Albert
Booher, Bonnie
Bortman, Ramona and Bill
Bortzfield, Evan
Bottamini, Bruce and Phyllis
Bottkol, Joseph
Bouchey, Audree
Boulware, Gene
Bowders, Mary Lee
Bradley, Betty
Brand, Ursula
Brandes, Beth and Julian
Brasted, Wilbur
Brauchler, Philip **11**
Braudrick, Mildred
Breazeale, Jack
Breck, Todd
Breeden, Lillian
Brehob, Mildred
Bremer, Danielle
Brennan, Norine
Brenner, Joe
Brewer, Marianne
Brewer, R. Bruce McKay and Peter
Brezina, George
Bridges, Ann
Brillhart, Teresa
Brodie, Walter
Brooks, Miriam
Brophy, Edith
Brother Hank
Brown, Alice
Brown, Dewayne M.
Brown, Don
Brown, Estelle
Brown, Marty
Brown, Robin
Brunetta, Sally
Brusso Sr., Fred
Bryant, Bob
Bryner, Shirley
Bulmer, Virginia
Burgess, Clarence
Burgess, Patti
Burke Family
Burkhardt, Al
Burkhardt, Betty
Burmeister, Margaret
Burton, Dorothy E.
Burton, Elvie
Bush, George E.
Bush, Robert
Bustinduy, Ben
Butler, Louise M.
Bye, Beth
Bythell, Kathryn
Calnan, Alan **21**
Campbell, Frank
Campbell, Margaret
Campbell, Mary Joan
Cantwell, Marilyn Hebert
Capizzi, Helen
Cappelletti, Norma
Carey, Robin
Carlson, Mimi
Carlson, Vivian
Carmody, John R.
Carney, Sheri
Carson, Betty
Carson, Roy
Carter, Mary Jo
Carter, Robert L.
Carter, Robert W.
Carvel, Richard
Casella, Rose Marie
Casotti, Michael
Cassell, Mildred and Selma Marmurek
Castleton, Elaine
Catanzaro, Norma
Cavanaugh, Dan
Cerqueira, Maria de Lourdes Trindade
Chamberlain Family
Chamberlain, Brent and Rhnnea
Charous, Rae Bribram
Chaudhari, Ram
Chavez, Carmelina
Check, Thelma
Chessen, James
Chiaro Jr., John
Chickey, Elenor
Chimberoff, Lila
Chiodo, Don
Chitwood, Dorothy
Chiuve, Marie
Chorosinski, Janina
Christensen, Alvin
Christopherson, Mildred
Cicchetto, Phyllis
Civic, Brian and Neha
Clanton, Chima
Cleek, Marguerite
Clew, Harvey
Clithero, Dick
Cobb, Lucy Garland
Coccia, Mary
Cochell, Howard
Coffin, Mary
Cogswell, Todd
Cohen, Fred
Cohen, Melvin
Cole, Ron and Jan
Coleman, Anne
Coleman, Ethel M.
Conger, Dorothy
Congleton, Darrell L.
Conrad, Allen
Conrad, Toni
Cook, Dean
Cook, Jessie
Cook, Patricia
Cooksey, Minnie
Cooley, Elaine
Cooper, Lois
Cooperman, Tillie
Coopersmith, Sam
Coppola, Josephine
Cormier, Rolande
Corry, Patrick
Costanzo, Joseph
Cotsakos, Lillian
Coughlin, Jean Michel
Craig, Paddy
Craig, Paul
Crayne, James
Cressman, Gloria
Crockett, Claire Leonard
Croft, Dan
Crotty, Shari
Crowley, Dorothy Ann
Crowley, Sally
Cruz Sr., Diego
Cruz, Heredia
Cummings, Imogene
Cummings, Lawrence
Cuomo, Gennaro
Cyr, Donna Jean
Czechowski, John
Daniels, Goldie
Dannehold, Edna
Darling, Leslie and Eleanor
Davenport, Johnie
David Murphy's mother
Davila, Margaret Jorgensen & Steven
Davis, Diane
Davis, Drew
Davis, Jeanette
Davis, Marilyn
Davis, William Gordon
DeAngelis, Anne
DeAngelo, Richard
Dear, Lily
DeBuys, Paige
Decker, Jeanie and Alex
DeFauw, Donna Lee
Defrawy, Mo
Del Sal, Concetta
Delan, Dalton
Delander, Paul T.
Demarest, J. D.
Dennis, Michael
DePersio, Mafalda Mae
DeRing, Befke
DeSantis, Paul
Devane, Bernard
DeWeck, Lynn
DiAngelo, Nunzia
Diaz, Salvadora
DiCarlo, Rita
Diefendorf, Esther
Diliberto, Pat
Dillon, Uva
Dingler III, Charles
Dinovitz, Connie
DiPetrantonio, Carmine and family
Dix, Anne
Dlouhy
Doherty
Doherty, James
Dols, Arthur F.
Donaldson, Dorothy
Donaldson, William
Donovan, Helen Fitzgerald
Douberley Jr., Roy P.
Doudna, Norma
Douglas, Ruth Grosback
Dow, Wallace
Dowsett, Peg
Doyle, Joan
Dratch, Paul and Elaine
Dreisewerd, Berndadette
Drir, Larbi
Drozd, Jean
Drucker, Hillary and Lonnie Kaplan
Duarte, Delfina
Dubina, Philip **58**
Dugas, Patricia
Duncan, Hazel
Durbin, Randy and Carole
Dwyer, Dorothy
Dyer, Edwin
Eddy, Marion
Edith Gregory's mother
Egges, Marcella
Eimers, Bill
Eiting, Evelyn
Elbot, Sylvane
Elfin, Margery
Elizalde, Jim and Debbie
Elmi, Grace Saladino
Endrissat, Dimitra

Engle, Margaret Mary
Englett, Betty
Epstein, Seymour
Ericksen, Phyllis
Ericson, Wilton
Ernstmeyer, Barbara **19**
Estes, Trudy
Estill, Patricia
Estrada, Estella
Etheredge, William G. and Helen M.
Evans, Daniel
Evans, William
Faber, Miriam
Facer, Clarence
Fagan, William
Faggart, Bill
Fairchild, Penny
Faler, Lena J.
Fant, Gail
Farrell, Betty **1**
Farrell, Clifford
Farrell, Elisabeth
Farrell, Florence
father, Chellye Pomeroys
Fava, Ieso Marcello
Fay Jr., Arnold E. "Bud"
Fecsik, Edward
Fellner, Ceil
Fellows, Mary
Fenzl, Roxana **52**
Ferguson, Eugene
Filipkowski, Josephine
Finn, Mary
Finney, Nancy **51**
Fiore, Elizabeth
Fischer, Mary
Fish, Richard
Flanagan, Edward **16**
Flanigan, Joseph
Flesjer, Lorin **2**
Fletcher, Frank
Fletcher, Mary Lou
Flippo, Jerry
Flis, Deborah
Florkowski, Adela
Flynn, Kathleen
Flynn, Pop
Flynn-Oboyski, Patricia
Foley, Alice Elizabeth Caldwell
Ford, Patrick
Forester, Frank
Foster, Louise
Foster, Nedra
Fox, Henry
Frahm, Laraine
Frank, Howard A.
Franklin, Bernard
Fraser, Caroline
Frazier, Pegge
Fredrickson, Jack
Freeman, Patricia
Freimuth, Robert
Frese, Gregory
Frey, Hope
Friederich, Betty
Friedman, Arthur
Friend, Karen
Friend, Martin
Frigand, Evelyn
Fritz, Phyllis **46**
Fruhman, Adele
Fruzia, James **28**
Fugler, Ruth
Funk, Marie
Gabriel, Rosario
Gaede, Rita
Gallaway, Sam
Gallehugh Sr., Joseph
Galpern, Pola
Gansman, Mary Lou
Garber, Gary and Eileen
Gardner, Paul
Garratt, Edward
Garrett Sr., Billy Joe
Garrick, Mary
Garrison, Jane Zuber
Garrison, Mary
Garzieri, Christine
Gasell, Mary
Gaskins, Billie J. Kelso and Eleanor Scott
Gastel, Sophie
Gaudet, Mary
Geisler, Herman
Gellin, Terry
Genova, Angie
Gentry, Richard J.
George, Leland
Gerber, Sam
Germinario, Joan
Gerrish, Mary Mae
Gerstein, Helene
Getz, Charles
Ghosh, Rhyan
Gibson, Marjorie
Gibson, Richard
Gilbert, Daniel
Giles, Jerry Mack
Gilgen, Helen
Gill, Patricia
Gillean, Jack **44**
Gilli, Angelo
Gilliam, Love
Gillingham, Lesley
Gimbel, David
Glaser, Hans
Glickman, Doris
Gloekler, Betty **5**
Gnewuch, Nancy
Goehle, Joanne
Goldberg, Seymour
Golden, Judith
Golder, Judith
Goldstein, Grace
Goldsworthy, Gretchen
Golub, Ellen
Gomez, Rodney
Gonzalez, Helen
Good, Anne
Good, Earl
Good, Simon "Papa Sy"
Goodson Jr., William A.
Goodwin, Dorothy
Gootzeit, Helen
Gordon, Gussie
Gorman, Priscilla
Gornall, John Lowell
Goyette, Louise
Grace, Thelma
Graham, Marilyn
Grahm, Alan
Gram
Gramlich, Dennis and Silva
Grandma Lucy
Green Family
Green, Beverly Luce
Green, Seymour
Greenberg, Myron
Greenberg, Toby
Greene, Gladys
Greg and Jake
Grell, Hilde
Grieshaber, Charitas
Griffith, Hazel
Grifkin, Alma
Griswold, Audrey
Grose, Beverly
Groslie, Patty
Gross, Peter
Grow, Doris
Grumet, Raymond
Gulacsy, Alexander
Gumbiner, Christy
Gurri, Julia
Gustafson, Ruth **57**
Guzzi, Rita Guzzi and Adeline
Haested, Jean
Hait, Jean
Hale, Barbara Jean
Hale, Robert
Halpern, Alvin
Hamilton, Ralph
Hanly, Mary
Hann, Marion
Hansen, Connie
Hanson, Alba
Hanson, Margaret
Hao, Elvin Kaho
Harding, Priscilla
Harold, Wanda
Harris, Susan
Hart, Isabelle
Hartong, Barbara
Haskins, William
Hassel, Wolfgang
Hatfield, Lane
Hatfield, Thelma
Hatskin, Ruben
Hayden, Sophie
Haynes, Dean Arthur
Healy, Christine
Heath, Joan
Heger, Clarence
Heisler, Ruth
Hempfling, Gloria
Henderson, Mary Louise Schaaf
Hendrick, Keith Coleman
Hendrix, David
Henley, Ruby
Hepburn, Carolyn
Herlihy, Kathleen
Herman, Bernice
Hernandez, Salvador
Herst Family
Heyer, Clarence
Higgins, Evalynne **30**
Higgins, George
Higgins, Jean
Highwart, Ron
Hilburn, Jeri
Hirst, Norma
Hoag, Robert
Hoaglund, James
Hobbs, Elva Whittington and Dolores
Hobbs, Kristyn and Donald Whittington
Hoblit, Iris
Hodlin, Greg
Hoefer, Michelle
Hoefling, Scott
Hoerger, Ella
Hoesch, Judith E.
Hoffman, Kathleen
Holland, Michelle
Hollenbeck, Joan
Holley, Shirley
Holman, Violet
Holmes, Madeline
Hooper, Harriet
Horlbeck, Mary
Horton, Mary
Hostetler, Andrew
Hou, Chi Chun
Howard, Nancy
Howard, Patricia
Howren, Sue
Howze, Marvin
Hoyt, Irene
Hubert, Marie-Theresa
Huck, Alvina
Hudon, Marjorie
Hudson, Dorothy **56**
Huerta Jr., Frank
Huff, Margaret
Hughes, Carolyn
Hull, Jeannette
Humphrey, Eleanor
Hunt, Joe **49**
Hurley, Helen S.
Hutches, Elizabeth
Hutchinson, Eugene
Hutzler, Mary C.
Hymel, Harold Paul "H. P."
Iannacone, Rose **42**
Iapichino Sr, John **10**
Iglesias, Claire
Ikezawa, Willand
Imperatore, Irma
Imthurn, Arthur
Inge
Ingholt, Marilyn
Issak, Lucille
Ittner, William
Jackley, Christine
Jackson, Charlie
Jackson, Linda
Jacobs, A. J.
Jacobs, Paula
Janz, Brian
Jay, Kitty
Jenkins, Elizabeth
Jenks, Loren H.
Jenks, Russell
Jessee, Joyce Lynell
Jessie
J. F.
John, Patricia
Johnson, Autumn
Johnson, Barbara S.
Johnson, Daniel
Johnson, David Dennis
Johnson, Ellen
Johnson, Everett
Johnson, Inez
Johnson, Jane
Johnson, Lawson
Johnson, Louise
Johnson, Norman
Johnson, O. Walter
Johnson, Ray M.
Johnson, Richard
Johnson, Robert V.
Johnson, Russell Lee
Johnson, Yvonne
Jones USAF, Lt. Col. Robert
Jones, Andy and Marsha
Jones, Elsa
Jones, Hunt B.
Jones, Mary
Jones, Robert
Jones, William
Jordan, Christine
Jordan, Lois
Jordan, Marie
Jordan, Ted
Kambour, Roger
Kang, Soonmyoung
Kanmert, Daniel
Kantorowitz, Ruth
Kao, Richard
Kapel, Eleanore
Kaplan, Ann
Karolewski, Stephanie
Kaspar Sr, James **24**
Kass, Murray
Katsolis, Stella
Katsuro, Paul
Katz, Renee
Katz, Robert
Kearns, Jan
Keefe, Elizabeth M.
Keevern, Marie
Kelley, James
Kelly, James
Kelly, Louise
Kelly, Mary Lou
Kemen, Lynne
Kenepp, Linda
Kennedy, Lillian
Kennedy, Marian
Kennedy, Mildred
Kenner, Eugene
Kerckhoff, Ordella
Kerr, Desmond **20**
Kersey, Austin
Kidd, Donald
Kilgallon, Mildred
Kilpatrick, Minnie
Kim, Charline
Kimbel, Phyllis
Kimbrough, Julie
Kinder, William
King, Robert
King, Ryan and Keri
King, Tom and Wendy Barry
Kingery, George
Kinnaird, Gilbert
Kinney, Jim
Kinzel, James
Kiradjieff, Edward **12**
Kirton, Helen
Kiser, Bonnie **15**
Klaff, Julian
Klaff, Marcia
Klavon, Joseph
Klebaur, Elizabeth
Klein, Richard
Klein, Robert
Kleiner, Linda
Kleitsch, Mary
Klimenko, Marianna
Klipper, Shirley
Knowd, Pat
Koch, Fred
Kogelmann, Joe
Kohler, Alice and Drew
Kohnen Family Initiative
Kohnen, Christina
Kono, Lillian
Koplik, Eugene
Korman, Stanley
Kowalski, Muriel
Krantz, Renee
Kranz, MaryLou
Krause, Anna
Kraynack, Susan
Kreider, Rebecca and Matt
Kronisch, Irving
Krueger, Sue
Kukurda, Joseph
Kukuruda, Edward
Kulhanek, Patricia
Kuppers, Vera
LaBelle, Pam
LaChapelle, James
LaCourse, David
Lam, Thuan Ly
Lamm, Jane
Landers, Christine
Landry, Daphne Fay
Lane, Joan
Lane, William
Lang, Joyce
Langford, Wendlyn
Lankford, Frankie
Larry Betz's birthday
Larson, Robert
Larson, Viola
LaRue, Dorothy **23**
Laslie-Guerrero, Scott and Alex
Lass-Banalas, Anne
Laubacher, Larry
Laumann, Heinz **59**
Lavigne, Helen
Lawson, Rachel and Alastair
Lax, Frances
Lazarus, Alice
Lazrove, Paul and Dolores
Lazzaro, Jim
Leadbetter, Lloyd
Leck, Kenneth
Ledebuhr, Kurt L.
Lee, Gregory
Lee, Jack Donald
Lee, Nancy Gail
Lee, Terry
Lehmkuhle, Rosemary
Lehrer, Sherwin
Leonard, Nancy
Leong, Ellen
Leow, Li Min
Lerner, Melvin
Leslie, Bobby and Karen
Leslie Gabriele's mother
Leslie, Marjorie
Lesnick, Thomas **17**
Lespier, Iraida
Levangie, Gilbert
Leventhal, Brian
Levine, Annette

In 2014 **1,519** people were memorialized through gifts in their honor or memory.



Levine, Barry
Levine, Shirley
Lewis, Anna Lee
Lewis, Clotieal
Lichtenstein, Dorothy
Light, Hani
Lightner, Burt and Carol
Lindberg, Macie Helen
Lindert, Elizabeth
Linker, Clifford
Lipson, Stephen J.
Lipton, Joan
Lisse, Morris
Lobanov, Victor
Loeb, Rodney
Loftus, Dan
Long, George
Longcor, Joseph V. A.
Longhi, Aldo
Longo, Lynne **22**
Lopez, Julio
Lopez, Marciana
Lord, George
Loughrey, Helen T.
Lowe, Rich
Lowe, Ruth C.
Lubars, Regina **39**
Lubetkin, Seymour and Shirley
Lueck, Ruth
Lundberg, Jennifer
Lurie, Celia
Lussier, Charles
Lusteck, Joe
Maaskamp, Lane
MacArthur, Betty
Macella Jr., Fred
Magarelli, Silvana
Magliozzi, Tom
Magner, Molly
Magnette, Charles
Mahoney, Dennis Al
Mahoney, Diane
Mailley, Carol
Main, Lodi and Tom
Maiuri, Assunta
Malkin, Abraham
Mallory, Barbara
Mancini, Rafael
Mandelblatt, Marilyn
Manieri, Virginia
Manis, Kathryn
Mar, Aileen and Frank
Marceau, Kenneth Paul
Marchi, Debbie
Marden, Bea
Markew, Walter
Marks, Roberta
Martin, Lynda
Martin, Mary
Martin, Olga
Marty, Lois
Massen, Charles and Sandra
Mast, Kathy
Mastandrea, Rosa Maria
Mastromatteo, Catherine and Mike
Mathis, Kenneth
Matsas, Pauline
Matthews, Gail
Matthews, Glenn **7**
Matties, Jack
Mau, Andrew
Mauler, Karl
Maurice, Jeanne
Mayer, Donald and Patricia
Mayers, Marguerite
Mayfield, Fred and Clara
Maynard, Chrissie
Mayol, Magdalena
Mazza, Michelle
McAdam, Dolores
McCanse, Lillian
McCarthy, Dorene Zable
McCord, Robert
McCormack, Gladys
McCullam, Dan
McDowell, Anna Lee Scott
McFadden, Patrick
McGinn, Joe
McGowan, Miriam
McGraw, Phil
McHugh, Jim
McInnis, Jerry
McKenna, Margaret
McKenna, Marie Louise
McKinney, Robert
McKinney, Roger
McKinsey, Donald
McLaughlin, John
McLeod, Drucilla
McManigal, Gail
McMillan, Ona Mae
McNany, John C.
McNemar, Shirley
McOskar, Marcia
McSherry, Lorraine
McWilliams, Janet
Mebine, Jeff and Patrick Hargreaves
Melba
Meltzer, Ethel and Maurie
Melvin, Sylvia
Mercado, Amelia
Meredith and Brandon
Merguerian, Mary
Merrett, Peter
Merrick, Nancy Grace
Merrill, Robert and Vickie
Merrill, Skip and Marian
Meshew, Jeanet
Meyer, Joan
Meyer, Marvin
Michaelis, Gertrude
Mickenberg, Edwin
Milanese, Corinne
Milanese, Samuel
Milen, Lois
Miles, Mary Pauline
Miller, Ann
Miller, Geraldine
Miller, Helen
Miller, Isadore
Miller, James Olaf
Miller, Kevin
Miller, Marilyn
Miller, Mike
Miller, Raymond
Milteer, Shirley **14**
Minogue, Elaine
Minor, Treva Ann
Minter, Norb **31**
Mintz, Phil
Missert, Mike
Mitchell, Gayle
Mitchell, Robert
Mizote, Eiko
Mizuba, Margaret
Molinari, Joseph
Monasebian, Miriam **26**
Monckton, Mary
Moncrief, Dave
Montgomery, Lillian
Moore, Allen
Moore, Dorothy Featherston
Moore, Margaret
Moore, Mary Jane
Moore, Thermon
Moore, William
Morelock, Max
Moretsky, Alice
Moretsky, Alice
Morgan, Helen
Morgan, John C.
Morgan, Kathy
Morganbesser, Marvin
Morganstern, Melvin
Morin, William E. Sr. **36**
Morris, John
Morris, Katherine
Morris, Leonard B.
Morris, Ted
Morton, Jim **8**
Moskowitz, Laura
Moul, Clara Lou
Moule, Dorothy
Mouratidis, Sofia **43**
Mullaney, Catherine
Munnery, Eric
Munoz, Maria
Murphy, Emma
Murphy, M. Christine
Murphy, Mary
Murphy, Richard **41**
Murray, Mary
Murrell, Peggy
Mustard, Joyce
Myers, Barbara **29**
Myron, Charles "Chuck"
Nading, Ronald
Nana
Nanji, Nasim
Neal, John
Nebel, Anna
Nebenzal, Gwen
Needham, Robert
Neely, Virginia
Neeman, Beverly
Neff, Mary Patricia
Neff, Randy
Nelson, Anne
Nelson, Bud
Nelson, Jean
Nelson, Lloyde Sr. **53**
Nelson, William
Nesselroade, John
Nevels, Bobby Lee
Newfell, Gertrude Pat
Newkirk, Bertena
Neyer, Donald
Nichols, Alva Mae
Nickerson, Jan
Nieman, Bill
Nini, Joseph
Nodine, Charles
Noonan, Brian
Nordby, Carol E.
Norman, Myra
Norwood, Betty
Notaro, Rosemarie
Nowak, Alexander
Nugent, Gloria
Nunes, Dixie Lee
Nunez, Ricardo
Nye, Libby
O'Brien, Greg
O'Brien, Hanna
O'Cain, Doris Anne
O'Callaghan, Eileen
Ochiai, Shinya
O'Connor, Rita
O'Donnell, Thomas
Ogden, John
Ohta, Auntie Lorraine
Okrent, Rita
Olds, Janet
O'Leary, Gwen
Oliver, Gertrude Field
Olsen, Betty Lou
Olshakoski, Claire
Oma
Onstott, Ethel
Ontjes, James
O'Reilly, David
Ortiz, Clarissa
Ortman, Judy, Charlie, Laura, Ed, Will & Carissa
Osber, Keith
Osborne, Charles
Osdras, Cathie
Owen, Stanley
Owren, Joseph
Pagan, Keith
Page, Mary Niland **38**
Palermo, Anna
Panepento, Larry
Pank, Gale
Papajohn, Stephanie Hartofelis
Pape, Pam
Pappadakis, Rose
Parker, Stanley
Parks, Ruth
Parnther, Irving
Parrack, L. Allison
Pasanen, Wayne
Pashion, Pete
Paulett, Robert
Paulsen, Reinhart
Pavia, Delia
Payne, James
Payne, James
Pearsall, Robert William
Pearson, Sheryl and Denis
Pechatsko, Paul
Peck, Roy and Michele
Pelletier, Claire
Pennington, Shirlee
Perez, Lennie
Perez-Barton, Maria
Perkins, Tracy
Peroutka, Stan
Perreault, Leonard
Perri, Rosalie
Perry, Mildred
Persing, Anne
Pesavento, John V.
Peters, Pat
Petracone, Angela
Pettrey, Francis **37**
Pfalz, Tilly
Phelps, Millie **18**
Phillips, Bob **27**
Phillips, David Lee
Phillips, Peggy
Piatt, Kathleen
Picariello, Rita
Piccolini, Raymond
Pichetto, Helen
Pickett, Thelma
Piekarski, Geraldine
Pierce Family
Piette, Grace
Pillips, Esther
Pine, Seymour
Plut, Evelyn
Pollack, Bea
Polsinelli, Angeline
Polson, Martha and Peter
Porcaro, Betty Ann
Porter, Ruth
Portewig, Becky
Posen, Anne
Postelnek, Gloria
Potter, James T.
Potter, Molly
Power, Theresa
Poz, Elena
Prachett, Terry
Pralle, Robert
Pratchett, Terry
Prather, Margery
Prinz, Anita
Probus, Bertha
Proudfoot, Ed and Marthe
Purinton, Clare
Purtell, Tim
Puterbaugh, Philip
Putzell, Victoria
Pyron, Martha
Quick, Joe
Quick, Sandy
Quinn, Emily
Quinoy, Ivonne
Rae, Keith and Jeanne
Raffa, Phil
Rager, Richard M.
Raikin, Elizabeth
Ramsey, Margaret
Ranabo, Ida Gay
Rapaport, Florence
Rasimowicz, Anthony J.
Ratner, Roslyn
Raynor, William G.
Recine, Florence
Reegs, Katy
Regen, Arthur
Reid, Mary Ann
Reisner, Marcia
Renda, Antonio
Rest, Allen
Reynes, Henri
Reynolds, David P.
Rhine, Jenny
Rhoades, Beatrice A.
Rhode, Valerie
Rhodes, Jack
Rial, Maria
Rich, Joleen
Rich, Margie
Richards, James W.
Richards, Tim
Riddle, Irene
Riedell, Barbara Lemon
Riesen, Arnold
Riggs, Paul
Ripp, Gertie
Riseman, Muriel
Ritkes, Irv
Rivera, Ralph
Roark, Effie
Robbins, Mattie Pitts
Roberson, Maurice
Roberts, Jerry
Robin, Josette **3**
Robinson, Tracey Vaughn
Robson, Jack
Robson, Kathy
Rockwell, Delbert
Rodriguez, Toni Falcon
Rohr, Franklin Von
Roitman, Jaime
Roizen, Sydney Shaffer and Jeffrey
Roman, Nicholas
Roney, Barbara A.
Root, Sue
Roscoe, Joseph
Rosenbaum
Rosenberg, Phyllis
Rosenfield, Sally
Rota, Ann
Roth, Sylvia
Rourke, Garry
Routman, Florence
Roy, Monique
Rubarth, W. Blaine
Rubin, Adele
Rudbart, Janice
Russell, Carole
Russell, Roberta
Ryder, Shirl
Sabin, Robert
Saddic, Nadia
Saeedi-Akbarzadeh, Hooshang
Sakai, Margie
Sakalian, Phyllis
Sakalis, Thomas
Samaha, Ruth
Sanda, Phyllis M.
Santos, Terelyn
Santosuosso, Betty Ann
Satchell, Rowena
Savage, Ruth
Scanlon, Sarah M.
Schaan, Carl
Schaeffer, Ann **34**
Schafer, Joseph
Schallis, Lauren
Schiesl, Helen
Schiffman, Ruth
Schlein, Dinah
Schlisserman, Stuart
Schlosser, Laverne
Schmidt, Marlene
Schmidt, Mildred
Schnopp, Lena
Schoeler, Ann
Schram, Alfred Christian
Schreiber, Benjamin
Schub, Abraham
Schultz, Ruth
Schumacher, Margaret
Schwager, Herbert
Schwartz, Betty
Schwarz, Arvilla
Sciupac, Ariel
Sclafani, Gus
Scott-Arnold, Nida L.
Scupham, Bill
Seale, Steve **40**
Seeman, Bernard
Segan, Ruth
Seibel, Mary
Seidel, Jean
Seidler, Magda
Selinger, Jerome
Senitza, Jacob Charles
Sepic, Ann
Sethi, J. L.
Shadie, Dorothy
Shaman, Paul and Susan
Shaner, Nico
Sharp, Walter
Shatton, Samuel P.
Shea, Olive L.
Sheinman, Molly
Shell, Hazel
Shelton, Ethan
Shepherd, Wade
Sherwood, B. P. and Marilyn
Sherwood, Josephine Palmer
Shetler, Sheila
Shih, Lian-Sang
Shine, Bernard
Shivdasani, Shanta
Shong, Margaret
Shorey, Cathy
Showfety, Rose
Shreve, William Allan
Shriver, Maria
Sieber, Millie and Graeme
Siegel, Celia
Sierra, Barry
Silverstein, Syma
Simmons, Matthew R.
Simone, E. Del
Simpson, Benjamin
Sincel, Charles
Skelton, Randell
Skrzypek, Ann
Slifka, Fred
Sloan, Noah H.
Slovick D.D.S, Jerome L.
Small, Hazel

Smart, Allan and Lorene
Smith, Bill
Smith, Doc
Smith, Follett
Smith, Joyce
Smith, Lottie Faye Howard
Smith, Nora
Smith, William
Smith, William Channing
Smolinksy, Jerry
Snider, Dennis
Snider, Marilynn
Snijders-Bijl, Katharina
Snyder, Rhea
Sochea, Edward and Margaret
Soderberg, Jim
Soellner, T. Lorraine
Sofuolis, Ernest A.
Solloway, Ethel
Sondrini, Leo
Sosnow, Sidney "Dad"
Sothcott, Edna
Soucie, Robert
Soucy, Claire
Sourgiadakis, Katerina
Spears, Donald
Spears, Jewell Lorraine
Specht, Bea
Speen, Kathy
Spence, Grace N.
Sperling, Muriel
Sporkin, Darcy
Sprague, Kenneth S.
Spyridakis, Helen
Stackhouse, Charles
Stageberg, Bob
Stahl, Robert
Stajduhar, Joyce
Stanfield, Ernestine
Stanford, Marcia
Stanford, Michael
Starr, Ronald
Stefanatos, Leonidas
Steiner, Ruth
Stein-Sapir, Len
Stemler, Arthur
Stephan, Audrey
Stephens, Florence
Steuber, Doug
Stevens, Leith and Katie Wolf
Stevens, Mary Kathryn
Stewart, Bob
Stewart, Kristen
Stewart, Vicki
Stiebitz, Walter
Stockwell, Joyce
Stoddard, Sharon
Stodden, Lou
Stone, Allen and Annette
Storch, Sidney
Storm, Walter
Stouten, Geraldine
Stowe, Julian "Papa"
Strand, Ruth
Stratte, Carnella Loretta
Strolin, Paula
Stroope, O. T. Atkins
Stroth, Jan
Struck, Gordon
Stuart, Dorothy
Stuber, Rose
Studeny, Edith **54**
Stueben, Marion
Stull, Doris
Stull, Walter
Suarez, Mario
Sullivan, Cornelius
Sulsky, Marion
Sumpter, Mary Ann
Sutton, June
Svenson, Ivan
Swadner, Marge **25**
Swaim, Sara
Swan, Sister Carol
Sweeney, Carole
Swiecicki, Karen
Swinehart, Shad and Vanessa Villegas
Sylvester, Carol
Sypula, Lenard
Taddei, Jack
Tatro, Pat
Tavares, Jose
Taylor, Diane
Taylor, Gayle
Taylor, Papa
Taylor, Rita
Tecson, Arturo
Therrien, Bea
Thompson Sr., Allen E.
Thompson, Bayard
Thompson, Joyce
Thorson, Mern
Throngkumpola, Samruey
Ticktin, Theda
Tietz, Chuck
Tigner, George
Ting, Wing Kam
Tippett, Paul
Tobin, Bentley
Tofanelli, Gene
Tomblin, Becky and Lucky
Toney, Steven
Tooley, Betty
Towhill, Judy
Tran, Elizabeth
Traverso, Anita Serra
Trehan, Krishna
Trepel, Charles
Tricarico, Angela
Troup, Linda **50**
Tucker, Robert
Tufaro, Emma
Turci, Teresa
Turisco, Lucia
Turnbull, Louis
Turner, Lois
Tuttle, Emma Jane
Twining, June
Tyler, Priscilla
Underwood, Anna Deane
Underwood, Debbie, David and Sterling
Unis, Walter Stanley
Van de Hay, Gladys
Van Kirk, Spencer and Phedra
VanMeter, Sally
Varricchione, Kay
Vasconi, Al
Vaughn, Ralph and Doris
Vavoulis, Beverly
Veasel, Walter
Vega, Monserrate
Vergona, Jenny
Verhagen, Gladys **13**
Vernick, Stephanie
Vessa, Lucille
Vickery, Percy
Vierra, Rita K. **47**
Vincent, Bruce
Vink, Jaap
Vinton, Jacob
Vito, James B **45**
Vogel, Karen
Volpi, Joe and Maureen
Vrahopoulos, Andrea
Wagner, Audrey
Wagner, Ray
Wagner, Willy
Waits, Harriet Hazel
Waldhoff, Helen
Waldner, Toby
Walker, Augustus
Walker, Joyce
Walker, Mary Anne
Wallich, Nancy
Walsh, Mike
Walter, Frank
Walthery, Stan
Walworth, Lincoln
Wancket, Opal
Wantz, Kenneth Eli
Ward, Miladean Shelton
Ward, William
Warner, Robert
Watler, Eric
Watson, Clarence
Watten, Paul
Weaver, Darlene
Webb, Ann
Webb, Gloria
Weber, Jackie **35**
Weeks, Phyllis
Weimerskirch, John Robert
Weinert, Janet
Weissman, Ira
Welsh, Lloyd Byron
Wetsell, Pat
Whitcombe, Harry Martin
White, Carl
White, Edna
White, Helen
White, Sandy
Whiting, David
Whitlock, Ralph
Whitman, William
Whitt, Ray
Whittier, Walter
Widman, Sally
Wiedeman, Mildred Timmy
Wieland, Arthur
Wightman, William Donald
Wilber, Adair
Wildman, Dee
Willborn, Robert
Willett, Hugh
Willett, Livia
Williams, Fay
Williams, Rose
Willis, Don
Willis, Karen
Wilson, Bill
Wilson, Jeff
Wilson, Keith
Wilson, Laura
Wilson, Melanie
Wilson, Nancy and Alice
Winans, Margaret Geery
Winchman, Helen
Winkley, Bodie
Winn, Bob
Winston, John
Winternheimer, Ralph
Wisdom, Dorothy
Wltkowski, Irene
Wlasuk, Pauline
Woeste, Margot
Woeste, Peggy
Wolcott, Allison
Wolf, Harry
Wolf, LaVerne
Wolfberg, Howard
Wood, Elmer G.
Wood, Helen
Wright, Gloria
Wright, Vera
Wroten Jr., Jacob T.
Yahna, Gertrude
Yarbrough, Landon
Yerg Jr., Stephen
Young, Winston
Youngblood, Joyce
Zack, Harry
Zanger, Lois
Zdilla, Antoinette
Zehtab, Dahlia
Zielinski, Norman R.
Ziesse, Merrideth
Zimmerman, John
Zimmerman, Robert
Zubal, Helen

What better way to pay your respects to a loved one than to give a life-affirming gift in their memory to research into the cause of Alzheimer's disease?

If you would like to designate memorial gifts to Cure Alzheimer's Fund, please let us know whom to notify when we receive donations.

Whether gifts are made online, by mail or by phone, we will gratefully acknowledge each donation by notifying the person or family member designated (no gift amount is disclosed).

Photos sent to us are posted on our website under "In Memory."
curealz.org/our-community

Each donation will honor your loved one and help sustain our research projects.
Thank you for designating charitable contributions to Cure Alzheimer's Fund.

If you have any questions about our In Memory program, please contact Laurel Lyle, director of fundraising programs, at llyle@curealz.org or 781-237-3800.

WHY CURE ALZHEIMER'S FUND?

To end Alzheimer's, we believe it's imperative to focus on and fund research that is innovative, collaborative and results-oriented. Our funded projects, upholding these values, have made tremendous progress in the search for an Alzheimer's cure. But there is more work to be done.

We invite you to join our ongoing effort to support the most promising, speed-driven, productive research to end Alzheimer's disease. We are targeting truly breakthrough work that is accelerating the efforts to reach a cure.

To make a gift, or for more giving information, please visit our website: **curealz.org/donate**.

Or call: **877-CURE-ALZ (287-3259)**.

Alzheimer's takes wonderful people away from us in a horrible way. The man I knew as my stepdad has been gone for over two years when the disease took the last of his awareness. I've watched my mother faithfully by his side showering him with love and as much comfort as anyone could give. I pray every day for a cure. Thank you, for all you do!

—June D.

We feel it is very important to continue Alzheimer's research to determine the cause and, eventually, the cure. It was heartbreaking to watch my mother go through this disease: to watch the woman that you loved, who cared for you all of those years, lose touch with the world. It was especially difficult for my father. They were married almost 62 years before she passed. I think my whole family is grateful that we had the time with her for as long as we did.

—Judy M.

When I hear people complain that there isn't much research being done or much being learned, I refer them to Cure Alzheimer's and can make a few remarks about how much is being done, and how challenging it has been! Many thanks for all your organization is doing.

—Sue B.

The research and new discoveries do seem promising. Hopefully there will be a way to stop this cruel disease. I am particularly happy that Bernard's family chose an organization that invests all of its donations toward research. My family and I greatly appreciate their thoughtfulness and the work your organization is doing.

—Mary B.

Cure Alzheimer's FUND

CHARITY DESIGNATION

Cure Alzheimer's Fund is a "doing business as" name for the Alzheimer's Disease Research Foundation, a 501(c)(3) public charity with federal tax ID #52-239-6428.

BBB ACCREDITED CHARITY

CHARITY NAVIGATOR ★★★★ Four Star Charity

GUIDESTAR

BEST

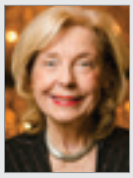
Board of Directors

Cure Alzheimer's Fund is governed by a board of directors; administered by a small, full-time staff; and guided scientifically by a Research Consortium. A Scientific Advisory Board audits the research program to make sure it is consistent with the foundation's objectives.

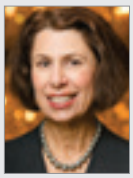
Jeffrey L. Morby
Chairman of the Cure Alzheimer's Fund Board of Directors, Founding Board Member
Chairman of the Morby Family Charitable Foundation
Director of the Andrew and Velda Morby Educational Foundation
Key Largo, Fla.

Robert F. Greenhill
Chairman and Founder of Greenhill & Co.
New York City

Henry F. McCance
Treasurer of the Cure Alzheimer's Fund Board of Directors, Founding Board Member
Chairman of the Board and President of Greylock Management Corporation
General Partner in a variety of Greylock private, limited partnerships for equity investments
Lake Wales, Fla.



Jacqueline C. Morby
Founding Board Member
Senior Advisor of TA Associates
Key Largo, Fla.



Phyllis Rappaport
Founding Board Member
Chair of the Phyllis and Jerome Lyle Rappaport Charitable Foundation
Director of New Boston Fund, Inc.
Stuart, Fla.

Sherry Sharp
Christian Writer
President and Director of The Sharp Foundation
Director of Sweet Monday Ministry
Richmond, Va.

Matthew Szulik
Chairman, Szulik Family Foundation
Former Chairman, CEO and President, Red Hat Inc.
Boston

Full bios available online at curealz.org/about/people.

Report design: Winking Fish • Copy editors: Colleen O'Neill & Loren Blinde

Administration

Timothy W. Armour
President & CEO
Board Member
(781) 237-3801
tarmour@curealz.org

Mike Curren
Senior Vice President
(781) 237-3811
mcurren@curealz.org

Sally Rosenfield
Senior Vice President
(781) 237-3812
srosenfield@curealz.org

David Shenk
Senior Adviser

Laurel Lyle
Director of Fundraising Programs
(339) 686-9131
llyle@curealz.org

Toni Carbone
Office Manager
(781) 237-3809
tcarbone@curealz.org

Madeleine Adelson
Marketing Manager
(339) 686-9135
madelson@curealz.org

Cindy Turner
Accountant

Jessica Mutch
Controller

Dorothy Vacaro
Gift Processing and Finance Associate

Main Office
34 Washington St., Suite 200
Wellesley Hills, MA 02481
Phone: (781) 237-3800
Fax: (781) 658-2399
info@curealz.org

Office of the Chairman,
Cure Alzheimer's Fund
Centre City Tower
650 Smithfield St., Suite 2015
Pittsburgh, PA 15222
Phone: (412) 261-2785

curealz.org