



## *Dear Friends,*

With the holidays approaching and the conclusion of 3 years of progress at Cure Alzheimer's Fund, we are grateful for your support and excited about the challenges ahead.

**The progress.** We are funding 17 research projects in 8 different outstanding research institutions across the nation. Charlie Glabe's article on oligomers in this Quarterly Report is just one of many excellent illustrations of the high quality, breakthrough collaborations we are supporting.

**The Alzheimer's Genome Project is on Target.** Our core effort, the Alzheimer's Genome Project, is yielding exciting results and is on target for the identification of all the genes affecting risk for Alzheimer's disease by the summer of 2008. This means that for the first time researchers all over the world will have identified for them all of the basic genetic "players" which contribute to Alzheimer's disease. The next steps are, first, to learn how these players make their deadly contributions and, second, how to keep them from doing what they are doing (the cures).

**The challenge.** In order to address the above critical issues, we will need to fund many more projects than we have in our short history. We will fund some of these projects directly, and some we will fund in conjunction with other institutions. Other projects may be undertaken by other research centers without our direct financial support since we will make our breakthrough findings available to all.

What this means is that as our Alzheimer's Genome Project initiative provides our Research Consortium and others with abundant new leads, researchers will be in an excellent position to take the next steps in developing a cure for Alzheimer's if we can provide them with sufficient new funds to continue their breakthrough research.

We are proud that the number of our donors has doubled over the last 12 months and as of December 1, 2007 our fundraising total is over \$7.5 million. We are extremely grateful for the generosity and spirit of our donors.

For our part, we as founders reiterate our pledge to continue to provide substantial, personal financial support of this effort. We remind our contributors that the founding families, in addition to funding research, also pay all operating costs of the foundation so that all donations received go 100% into Alzheimer's research. Please join us for the next critical steps along the path to ridding society of this dreaded disease.

Sincerely,  
Phyllis, Jeff, Henry

*In order to answer  
the critical  
questions, we need  
to fund many  
more projects than  
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our short history.*



**Phyllis C. Rappaport**  
Founding Board Member



**Jeffrey L. Morby**  
Chairman, Board of Directors,  
Founding Board Member

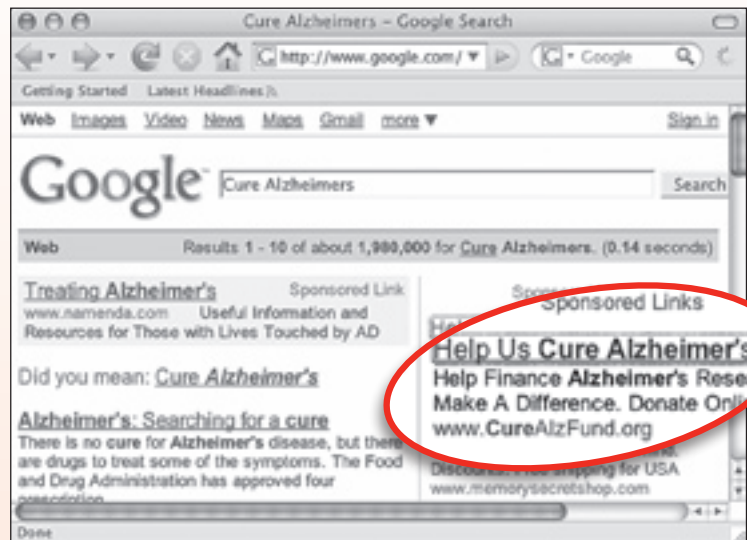


**Henry F. McCance**  
Founding Board Member

# Cure Alzheimer's Fund is thrilled to receive Google™ Grant

The Google™ Grants program supports organizations sharing Google's philosophy of community service to help the world in areas such as science and technology, education, global public health, the environment, youth advocacy, and the arts.

Designed for 501(c)(3) non-profit organizations, Google Grants is a unique in-kind advertising program harnessing the power of Google AdWords advertising product. Google Grants has awarded AdWords advertising to hundreds of non-profit groups whose missions range from animal welfare to literacy, from supporting homeless children to promoting HIV education.



Google users who search for "Cure Alzheimers" will find us at the top of the sponsored links as part of this special program.

Dressed in their costumes, the Psychology Club raised more than \$1,500 for Cure Alzheimer's Fund to support breakthrough research to find a cure.

## Trick or Treating for Alzheimer's Research

Students at the College of New Jersey got more than candy for Halloween. Dressed in their costumes, the Psychology Club raised more than \$1,500 for Cure Alzheimer's Fund to support breakthrough research to find a cure.

Sweta Shah, a psychology major from Toms River, NJ, explained; "The Psych Club decided to support Alzheimer's research as a community service-type activity, which we have never done before. I suggested Alzheimer's because it is linked to neuroscience and psychology and also because my grandmother passed away less than a year ago

after a two-year struggle with Alzheimer's disease. My grandmother moved to America in order to help my parents raise me, so she was a really big part of my life, and when she got sick I realized just how important she was to me. So, instead of focusing on how much I'm going to miss her, I decided that I wanted to somehow make a difference for others who have Alzheimer's."

Cure Alzheimer's Fund is grateful for this creative initiative. Special thanks to Sweta Shah and Elizabeth Beck and the entire club for their work. If you're interested in hosting a fundraiser for Cure Alzheimer's Fund, please let us know and we'll provide all the support we can. These efforts are very much appreciated!

# Targeting Amyloid Oligomers in Alzheimer's Disease

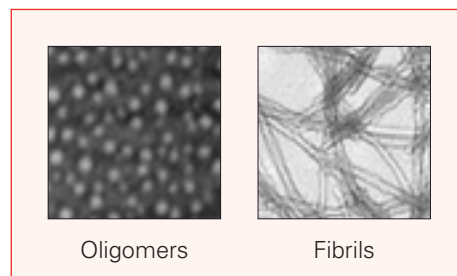
By Charles Glabe, Ph.D., University of California at Irvine  
Professor, Molecular Biology and Biochemistry, School of Biological Sciences

Alzheimer's disease (AD) is the most widespread and debilitating disease that robs otherwise healthy individuals of essential functions, such as memory and cognitive ability. One of the critical aspects of AD is accumulation of misfolded proteins as deposits in regions of the brain involved in learning and memory that are known by the general term "amyloid." One of the curious aspects of amyloid is that it also accumulates in other degenerative diseases associated with aging, like Parkinson's and Huntington's diseases and Type II diabetes. In AD, the amyloid deposits are primarily made up of a small protein known as "amyloid beta," or A $\beta$ , while in other degenerative diseases a different type of protein forms the amyloid. In most of these diseases, mutations in the amyloid forming protein promote the misfolding of the protein and are associated with rare inherited forms of disease, providing strong evidence that amyloid formation is closely linked to the disease.

Amyloids grow into long, thin fibrils by the addition of misfolded proteins onto the ends, much like the addition of a single Lego block onto a stack. Proteins are linear strands of amino acids that fold into complex globular shapes that are critical for the protein's function. In order for a normal protein to form an amyloid fibril, it must undergo a change in its original shape from a globular form to an unwound abnormal shape that allows its self-assembly with other misfolded protein strands like Lego blocks. This assembly can go on infinitely, so that each amyloid fibril may contain a million or more individual subunits or blocks.

Although amyloid accumulation is a key feature of AD, it also presented an enigma because the accumulation of insoluble

amyloid fibril deposits is poorly correlated with dementia. Some cognitively normal individuals were found to have the same amount of insoluble amyloid deposits as AD patients, indicating that these deposits are not always associated with disease. Similarly, other AD patients have been observed with relatively little of the insoluble amyloid deposits. These observations refocused research away from the insoluble amyloid deposits to other types of amyloid aggregates known as "oligomers."



More recent research in amyloid aggregation has discovered that the amyloid formation pathway also includes smaller aggregates, or oligomers, and these oligomers have a different shape or conformation of the protein than that found in amyloid fibrils. Like Duplo blocks and Lego blocks, the oligomer conformation does not co-assemble with the fibril building blocks, but rather only supports the self-assembly of small aggregates of about three to 24 individual peptide strands. Amyloid oligomers have been observed for AD and other amyloid-related degenerative diseases. There is increasing evidence that these small oligomers, rather than the long fibrils, are the primary toxic or pathogenic species that cause all of these degenerative diseases. Oligomers are

more toxic to cells and their presence correlates better with disease than the fibrils. Determination of the structures of these toxic oligomers, what they do to cause disease and how we may prevent their toxic activity are the primary objectives of Cure Alzheimer's Fund Research Consortium Collaborative.

The Cure Alzheimer's Fund Research Consortium Collaborative consists of six of the members of the Research Consortium, a member of the Cure Alzheimer's Fund Science Advisory Board and two other renowned scientists. This highly innovative collaborative project investigates critical aspects of amyloid oligomers in AD. The project is in its second year of funding. For a full summary of the funded projects, please visit the Research section of our website [www.curealzfund.org](http://www.curealzfund.org).

## Why target A $\beta$ oligomers?

The current treatments for AD target the disease symptoms and to prevent or cure AD, new treatments are needed that target the causes of the disease. A $\beta$  oligomers are a leading candidate for causing AD, so it makes sense to develop strategies to prevent their formation, promote their elimination or inhibit their toxic activity.

Vaccination against A $\beta$  has shown considerable promise in human clinical trials, but one of the hurdles that must be overcome in order to develop an effective vaccine is to develop vaccines that lack undesirable inflammatory side effects. Vaccines that specifically target the misfolded conformation specific to amyloid oligomers may eliminate oligomers or block their toxicity and overcome these side effects. Since the structures

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# McCance Joins Alzheimer's Study Group to form National Strategy Dealing with Alzheimer's Disease

Cure Alzheimer's Fund co-founder Henry McCance has been invited to join the Alzheimer's Study Group (ASG). The private, non-partisan group will be working hard during 2008 to form a national strategy to deal effectively with the growing tragedy of Alzheimer's disease. Co-chaired by former Speaker of the House and Founder of the Center for Health Transformation Newt Gingrich and former Senator and President of the New School, Bob Kerrey, the ASG is composed of a panel of notables who have committed to develop an Alzheimer's action plan for the nation by the summer of 2008.



**Henry F. McCance**  
Founding Board Member

## Financial Report

President Tim Armour reports our progress as follows. Dollars are in cash received and rounded to the nearest \$1,000; no pledges or commitments are included. Please note that the Cure Alzheimer's Fund 2006 tax return, form 990, is online at [www.curealzfund.org](http://www.curealzfund.org).

### How much have we raised?

Total funds raised from inception to Dec. 1, 2007	\$ 7,810,000
Total funds raised Year to Date	\$ 2,909,000

### How are we putting that money to work?

Total distributed for Research from inception to Dec. 1, 2007	\$ 4,492,000
Total distributed for Research Year to Date	\$ 1,854,000

Total operating expenses Year to Date	\$ 520,000*
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\*Provided by the Founders; not paid for by other donors

Reserve before additional research and fundraising in 2007	\$ 3,318,000
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Projected Research Budget for 2008	\$ 6,000,000
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## Cure Alzheimer's FUND

34 Washington Street, Suite 300  
Wellesley Hills, Massachusetts 02481  
Telephone: 877-CURE-ALZ (287-3259)  
Fax: 781-658-2399  
[www.curealzfund.org](http://www.curealzfund.org)

### Mission Statement

To fund research with the highest probability of slowing, stopping or reversing Alzheimer's disease.

### Research Consortium

- Rudolph E. Tanzi**, Ph.D., Chairman, Research Consortium, Harvard Medical School/ Massachusetts General Hospital
- Sam Gandy**, M.D., Ph.D., Mount Sinai School of Medicine
- Charles Glabe**, Ph.D., University of California at Irvine
- David Michael Holtzman**, M.D., Washington University, St. Louis
- M. Ilyas Kamboh**, Ph.D., University of Pittsburgh
- Virginia M.-Y. Lee**, Ph.D., MBA, University of Pennsylvania
- John C. Mazziotta**, M.D., Ph.D., UCLA
- Sangram S. Sisodia**, Ph.D., University of Chicago

### Scientific Advisory Board

- Caleb Finch**, Ph.D., University of Southern CA
- Paul Greengard**, Ph.D., The Rockefeller University
- John S. Lazo**, Ph.D., University of Pittsburgh
- Marsel Mesulam**, M.D., Northwestern University

### Board of Directors

- Jeffrey L. Morby\***, Pittsburgh, PA, Chairman
- John S. Lazo**, Ph.D., Pittsburgh, PA
- Henry F. McCance\***, Boston, MA
- Jacqueline C. Morby\***, Pittsburgh, PA
- Phyllis Rappaport\***, Boston, MA
- William E. Trueheart**, Ed.D., Pittsburgh, PA
- Tim Armour**, Wellesley Hills, MA, President

\*Founder

### Administration

- Tim Armour**, President
- Katie Cutler**, Director of Development
- Catherine Cotton**, Manager, Fundraising Programs
- John Epeneter**, Controller
- Karen Robertson**, Accountant

### 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 # 52-2396428.



# How would you like to sail on an America's Cup 12 Meter Yacht?

## Here is your chance.

Cure Alzheimer's Fund is proud to be taking part in Massachusetts General Hospital's America's Cup Experience on June 24, 2008. Cure Alzheimer's Fund co-founder, Phyllis Rappaport, will be captaining one of the boats and would like to invite you to join her as a crew member! She will have the assistance of a professional crew so participants can do as little or as much as they want.

This unique day in Newport, RI, couples the excitement of America's Cup racing with supporting research at Massachusetts General Hospital. The hospital and four of its President Council directors will be hosting the event that includes lunch on the New York Yacht Club veranda, an afternoon of racing featuring 10 of America's Cup's most famous yachts, and then back to the club for cocktails, a clam bake and a brief, silent auction of premium items.

There are only nine crew opportunities and a few spots on the spectator boat, so please act quickly to reserve your place. Each crew member (or spectator) will be asked for a \$2,500 donation to Cure Alzheimer's Fund to support cutting-edge research at Massachusetts General Hospital.

More information about the America's Cup Experience and Cure Alzheimer's Fund is available at their respective websites; [www.mghamericascup.org](http://www.mghamericascup.org) and [www.curealzfund.org](http://www.curealzfund.org).

**To sign up or for more information, please contact [tarmour@curealzfund.org](mailto:tarmour@curealzfund.org) or 781-237-3800.**



*The 12 Meter Intrepid, two-time Defender of the America's Cup, is one of the most famous racing yachts of all time.*



*Columbia America's Cup Boat*

Please help us fund research with the highest probability of slowing, stopping or reversing Alzheimer's disease. Donations can be made through our website [www.curealzfund.org](http://www.curealzfund.org) or sent directly to our office.

For gifts of securities or direct wire transfers, please contact Tim Armour at **877-CURE-ALZ (287-3259)** for further information.

## Targeting Amyloid Oligomers in Alzheimer's Disease

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recognized by the antibodies are specific for the disease state and do not recognize the normal, non-disease related protein structures, vaccination against the oligomeric conformation may be less likely to cause inflammatory complications.

Conformation dependent monoclonal antibodies may be more effective therapeutic agents because they bind only to the pathological oligomers that are present at low concentrations and will not bind to amyloid plaques. Similarly, drugs that specifically target A $\beta$  oligomer formation or toxicity may be more effective because lower concentrations of drugs may be needed to achieve a



therapeutic benefit and they may have lower side effects as a consequence. The Cure Alzheimer's Fund Research Consortium Collaborative has a

broad and integrated research program that is focused on developing therapeutic agents that prevent or cure AD by targeting the cause of AD. ■

### Cure Alzheimer's Fund Research Consortium Collaborative Researchers

**Standing, (L to R):**

**Dr. Sam Gandy**  
Mount Sinai School of Medicine

**Dr. Virginia Lee**  
University of Pennsylvania

**Dr. Sangram Sisodia**  
University of Chicago

**Dr. David Holtzman**  
Washington University of St. Louis

**Dr. Charles Glabe**  
University of California at Irvine

**Seated (L to R):**

**Dr. Rudolph Tanzi**  
Massachusetts General Hospital/  
Harvard Medical School

**Dr. Tae-Wan Kim**  
Columbia University Medical School

**Not pictured:**

**Dr. Paul Greengard**  
The Rockefeller University

**Dr. Robert Moir**  
Massachusetts General Hospital/  
Harvard Medical School