



The Science Behind the Alzheimer's Genome Project Initiative

The objective is to identify all genes that contribute significant risk for Alzheimer's disease, thereby identifying more targets for the development of therapeutic interventions.

The core research effort currently funded by Cure Alzheimer's Fund is the Alzheimer's Genome Project™ initiative. This project, entirely funded by Cure Alzheimer's Fund, is being led by Dr. Rudolph Tanzi at Massachusetts General Hospital. The objective is to identify all genes that contribute significant risk for Alzheimer's disease, thereby identifying more targets for the development of therapeutic interventions.

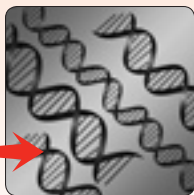
Almost 99.9 percent of every person's DNA is the same. So it is only the remaining 0.1 percent that makes individuals unique and determines such characteristics as height, eye color and susceptibility to diseases like Alzheimer's disease. However, even in that 0.1 percent, there is an enormous amount of information to sift through to identify variations that might account for or contribute to specific diseases.

Such recent discoveries as the completion of the Human Genome project, the creation of extensive databases of family-based DNA samples, and the invention of technology to provide DNA microarrays for whole genome scans mean scientists can search more easily for errant genes.

Cure Alzheimer's Fund researchers are using microarrays in their search for the remaining Alzheimer's disease genes. Here is a description of how a DNA micorarray (also known as a gene chip) works. ■



DNA is taken from the blood of 1,500 individuals (some with and some without Alzheimer's disease) in a family sample (457 families).



Billions of duplicates of DNA are made.



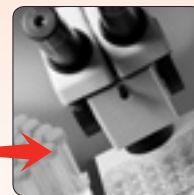
DNA is chopped up into pieces that contain one SNP (single nucleotide polymorphism).



The DNA is put onto a microarray (chip) and, using fluorescent dye and a laser light, variants are "lit up", revealing a pattern.



A computer scans each SNP pattern and then geneticists conduct statistical analysis of the differences in patterns between those with Alzheimer's and those without. This process identifies suspect SNPs that reside within or alongside genes that could be involved in Alzheimer's disease.



Once researchers have identified potential target genes, the candidate gene is thoroughly examined in cell and animal studies to explore its potential role in the disease and to what extent it may affect risk.



Researchers evaluate the candidate genes that look most promising for therapeutic intervention.

Research UPDATE

Hay Harbour Club Hosts Benefit Tennis Tournament

Thirty-four women helped raise funds for Cure Alzheimer's in a round-robin tennis tournament at Fishers Island Hay Harbor Club on July 20, 2007.

Highlights of the creative tournament, organized by Diana Fiske, included unique purchase opportunities in the match. Competitors could buy an additional serve, pay for an opponent to get only one serve, and all players had to pay up every time they said the word "Sorry."

Many thanks to all the participants and a special thank you to Gary Gorman at the Hay Harbour Club, Penn Rand, Nancy Hunt, Jennifer Clayson and Diana Fiske for their work. ■



Henry McCance with participants at the Hay Harbour Club Tennis Tournament to benefit Cure Alzheimer's Fund.

Alzheimer's Genome Project Initiative

The core research effort continues to be the Alzheimer's Genome Project™ initiative. Using whole genome association to analyze DNA, the objective is to identify all the genes that affect risk for AD. That project, largely based at Massachusetts General Hospital and Harvard Medical School, continues and is on time for completion by summer of 2008.

Collaborative Study of Abeta "Oligomers"

Last year, Cure Alzheimer's Fund supported a unique collaborative effort to understand how Amyloid-beta congregates into "oligomers" of different numbers of Amyloid-beta molecules and which ones make the most difference in contributing to Alzheimer's pathology. Abeta "oligomers" are now thought, by most researchers, to be a key to the cause of Alzheimer's disease. The first year's work was so successful that we have distributed second-year grants for the original members—Drs. Charles Glabe (UC Irvine), Virginia M.-Y. Lee (University of Pennsylvania), Rudy Tanzi and Robert Moir (Mass General/Harvard), Sangram Sisodia (University of Chicago), Paul Greengard (The Rockefeller University) and David Michael Holtzman (Washington University of St. Louis).



Dr. Charles Glabe



Dr. Virginia M.-Y. Lee



Dr. Rudy Tanzi



Dr. Robert Moir



Dr. Sangram Sisodia



Dr. Paul Greengard



Dr. David Michael Holtzman

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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 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.

New Member of Scientific Advisory Board

Marsel Mesulam, born in Istanbul in 1945, received the degrees of Bachelor of Arts(1968) and Medical Doctor(1972), both from Harvard University. He was appointed Professor of Neurology at Harvard Medical School where he founded and led the Behavioral Neurology Unit of Boston's Beth Israel Hospital. In 1994 he was appointed the Dunbar Professor of Neurology and Psychiatry and the Director of the multidepartmental Cognitive Neurology and Alzheimer's Disease Center at Northwestern University's Feinberg School of Medicine in Chicago.

His research has addressed the connectivity of the monkey brain, the organization of human cholinergic pathways, the representation of cognitive functions by large-scale neurocognitive

networks, and the neurobiology of dementias. He introduced a new method for tracing neural pathways by axonal transport, identified the source of cortical cholinergic pathways in the primate brain, and characterized a unique form of language-based dementia known as primary progressive aphasia.

His students and trainees hold leadership positions in the US and abroad. He has published more than 300 research papers and edited a popular textbook of Behavioral and Cognitive Neurology. He is a past Vice President of the American Association of Neurology and a past President of the Organization of Human Brain Mapping. His current research focuses on the functional imaging of neurocognitive networks and on the pathophysiology of focal dementias. ■



*Dr. Marsel Mesulam, MD
Director, Cognitive Neurology
and Alzheimer's Disease Center
and Ruth and Evelyn Dunbar
Distinguished Professor at
Northwestern University*

The Road Back to Everest: Memories are Everything Attempt of Shisha Pangma

As part of a yearlong journey and fund-raising campaign that will culminate with an Everest summit attempt in May 2008, Alan Arnette is in Tibet to climb Shisha Pangma. Alan's mother suffers from Alzheimer's disease and Alan has incorporated a \$100,000 fund-raising campaign as part of his effort to summit the world's highest mountain. Cure Alzheimer's Fund already has received contributions on Alan's behalf from many supporters and friends.

Shisha Pangma is the 14th-highest peak in the world at 26,335 feet (8,027 meters). It's located in southern Tibet and uniquely stands somewhat alone from the main Himalayan range. The expedition started in Lhasa and involved a long journey over the



Tibetan Steps to base camp. The six-week expedition will be Alan's fifth climb on an 8,000-meter mountain.

Read about Alan's travel and mountaineering adventures, as well as his commitment to finding a cure for Alzheimer's disease, in his updates posted on our home page (www.curealzfund.org) and his website (www.alanarnette.com). Highlights include visiting the Dalai Lama's homes and his experiences in the city of Lhasa, including extraordinary photos. ■



Thanks!

Cure Alzheimer's Fund thanks our wonderful summer interns and wishes them the best in their future endeavors. Aiste Narkeviciute graduated from Boston College this spring and has just started work at Clarion Healthcare Consulting and Samantha Mignotte has returned to her junior year at Vassar where she will be working on her double degree in Economics and Political Science and will spend her spring semester abroad in South Africa.



Aiste Narkeviciute



Samantha Mignotte

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 now online at www.curealzfund.org.

How much have we raised?

Total funds raised from inception to September 30, 2007	\$ 7,282,000
Total funds raised Year to Date	\$ 2,382,000

How are we putting that money to work?

Total distributed for Research from inception to September 30, 2007	\$ 3,992,000
Total distributed for Research Year to Date	\$ 1,354,000

Total operating expenses Year to Date	\$ 435,000*
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*Provided by the Founders; not paid for by other donors

Reserve before additional research and fundraising in 2007	\$ 2,383,000
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Projected Research Budget for 2007	\$ 6,000,000
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Cure Alzheimer's FUND

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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

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Marsel Mesulam, M.D., Northwestern University

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CHARITY DESIGNATION

Cure Alzheimer's Fund® is a "doing business as" name for the Alzheimer's Disease Research Foundation, a 501c3 public charity with federal tax ID # 52-2396428.

Eldercare Provider is Auspicious Neighbor for Cure Alzheimers's Fund

In May, Cure Alzheimer's Fund moved its Massachusetts headquarters to a new location in Wellesley Hills. Our neighbor, it turns out, shares a passion for ending Alzheimer's disease, and it has been a pleasure to get to know them and their business.

CareScout has been helping Americans choose an eldercare provider (home care, assisted living, nursing home and adult day care) since 1997. CareScout created the first "quality of care" ratings systems for nursing homes and home health care agencies in America—to provide peace of mind during the decision-making process.

The company helps families (and corporations such as insurance companies) save significant dollars on eldercare services through its proprietary Care Advocacy Program and discount network called the CareScout Network. In addition, insurance companies rely on the company as an important part of their risk-management strategies. CareScout is one of Inc. Magazine's top 1,000 fastest-growing private companies.

With 75 million baby boomers coming into the Alzheimer's age range, eldercare services and long-term care solutions are becoming increasingly important. Consider these statistics:

- 25 percent of us will have Alzheimer's disease by the time we are in our 80s.*
- Alzheimer's costs Medicare and Medicaid in excess of \$100 billion per year. By 2030, the number is projected to be more than \$500 billion, potentially bankrupting the system.*
- Almost 10 million Americans are caring for a loved one with Alzheimer's disease or dementia. These unpaid caregivers provided the nation with an economic asset worth almost \$83 billion in 2005 based on their hours of care.*
- Half of all elderly residents of assisted-living facilities have Alzheimer's or other dementia and at least half of the elderly participants in adult day care services have Alzheimer's or other dementia.

While we push for a cure, it is critical that others are providing services to best care for Alzheimer's patients. ■



To learn more about CareScout, visit www.carescout.com. Mention you heard about the company from Cure Alzheimer's Fund and receive a discount.

* Alzheimer's Disease Facts and Figures 2007, Alzheimer's Association

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Research UPDATE

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In addition, two other distinguished researchers have joined the collaborative to provide different perspectives on this critical issue. We are pleased to have distributed research funding in 2007 to Dr. Sam Gandy at Mount Sinai School of Medicine and Dr. Tai Wan Kim of Columbia University Medical Center, both in New York City.



Dr. Sam Gandy



Dr. Tai Wan Kim

Reflecting this important focus, another oligomer-oriented project was funded by a foundation through Cure Alzheimer's Fund in a separate collaboration by Drs. Greengard and Tanzi.

New Research Effort

The third new research effort funded in 2007 is a first in the Alzheimer's field, and represents a strong collaboration between an anonymous foundation and Cure Alzheimer's Fund to provide the tools and intellectual capital to benefit all AD researchers. This project, led by Dr. David Michael Holtzman at Washington University of St. Louis, involves developing a facility to measure the concentration of Amyloid-beta in real time in the brain of living, behaving mouse models that develop features of AD. The facility enables screening for drugs that lower Amyloid-beta directly in the brain in relatively high throughput. ■