



Driving Genes to Therapies™



Building on its enormously successful “Whole Genome Sequencing” Project, which identified nearly 1,000 new genetic mutations in more than 50 different genes, Cure Alzheimer’s Fund has announced a new, even more ambitious multiyear, \$50 million plus program titled “Genes to Therapies” (G2T). Simply put, the new project’s goal is to use the most promising recent genetic discoveries to develop drugs that would stop the disease at three separate stages:

- **For healthy people who don’t yet have Alzheimer’s:** to stop Alzheimer’s before it starts by inhibiting the production of the Abeta protein and/or clearing it from the brain after it forms.
- **For those exhibiting symptoms of Alzheimer’s:** to stop the process early on by inhibiting the formation of tau tangles and protecting neurons from undue stress.
- **For those whose disease has progressed significantly:** to reduce the Abeta and tau-provoked inflammation, slowing down or even stopping the disease process.

“This is indeed a major challenge,” said Research Consortium Chair Dr. Rudy Tanzi, “but I believe we now have the data, the technology and the funding to take it on.” The first step, he explained, will be to prioritize approximately 15 genes that fit several key criteria:

- they must have a clear impact on Alzheimer’s pathology;
- they must be “druggable”—connected to known biological systems, producing proteins similar to those already targeted by other drugs; and
- they must impact one of the clear intervention points—Abeta/plaque production, tangle formation or neuroinflammation.

G2T will be aided significantly by the recent “Alzheimer’s-in-a-dish” breakthrough by Tanzi and Dr. Doo Kim at Massachusetts General Hospital. Using stem cells, Dr. Kim was—for the first time—able to create both the amyloid plaque and neurofibrillary tangle pathology of AD in a Petri dish. This technology will enable much cheaper and faster drug testing.

“Having learned much about the pathway that leads to disease, together with the genes responsible,” said Tanzi, “we now can proceed to look for chemical compounds that correct the defects. In other words, we can try to fix what is broken.”

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**Don’t Miss Our Upcoming Webinar
Feb. 6 at 1 p.m. EST
From Genes to Therapies**

Tune in live to the site of the Cure Alzheimer’s Fund Research Consortium’s annual meeting to hear the latest progress from our Genes to Therapies Steering Committee. The Alzstream™ webinar will be moderated by David Shenk, author of “The Forgetting,” and will feature each of the members of the G2T Steering Committee. No sign-up necessary. Log on at <http://curealz.org/webinar>. ■

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Genes to Therapies (G2T) Steering Committee



Genes to Therapies

To ensure the success of the G2T program, Cure Alzheimer's Fund is funding a unique research facilitation process—the “infrastructure” for the project. This involves recruiting researchers with expertise in specific genes and providing them with the specialty mice and reagents they will need to do their Alzheimer's investigations relative to their particular genes. Unlike most projects, which require six to nine months' preparation time before any real research begins, our unique approach will save money and, most importantly, time, allowing our researchers to get started right away.

Working as one, our G2T Steering Committee's ultimate goal is to develop effective drug therapies at three different points in the pathological cascade of the disease to prevent, inhibit and cure Alzheimer's. Here's a quick look at each of the players.

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

Joseph P. and Rose F. Kennedy
Professor of Neurology at Harvard
University and Director of the Genetics and Aging
Research Unit at Massachusetts General
Hospital (MGH)



Tanzi was the pioneering scientist who discovered the linkage between specific genes and Alzheimer's disease. Today Tanzi leads the Alzheimer's Genome Project™, a groundbreaking initiative dedicated to finding all the genes associated with Alzheimer's disease so we not only can repair the damage the disease has caused, but prevent it from occurring. Tanzi's role as chair of the G2T Steering Committee is to coordinate the efforts of the researchers as well as to continue his innovative research on what causes Alzheimer's disease and how it develops.

Sangram S. Sisodia, Ph.D., Cure Alzheimer's Fund Research Consortium

Thomas A. Reynolds Sr. Family
Professor of Neurosciences,
University of Chicago Director,
Center for Molecular Neurobiology



A longtime collaborator of Tanzi's, Sisodia is a leading expert on the molecular and cell biology of Alzheimer's disease pathology; he has been at the forefront of learning how the familial Alzheimer's disease (FAD) genes, including the amyloid precursor protein and the presenilins, function normally and contribute to Alzheimer's disease pathogenesis. His role on the committee is to help identify other researchers, beyond the Research Consortium, who are more familiar with designated genes. Sisodia was very instrumental in designing and implementing the unique “infrastructure” to facilitate the more rapid and cost-effective research program for Genes to Therapies.

David Michael Holtzman, M.D., Cure Alzheimer's Fund Research Consortium

The Andrew B. and Gretchen P. Jones
Professor of Neurology and Head
of the Department of Neurology,
Washington University, St. Louis



Like Sisodia, Dr. Holtzman has a background in biology and has helped to identify the most effective interventions from specific gene functional variants in Alzheimer's disease. Dr. Holtzman is involved in clinical and research activities at the Washington University Memory and Aging Project and the Alzheimer's Disease Research Center. He has contributed greatly to our understanding of how anti-amyloid antibodies affect Alzheimer's pathology and how Abeta is cleared from the brains of Alzheimer's patients. As a member of the steering committee, he will assist in identifying other researchers with similar skills to investigate how the designated Alzheimer's genes affect the pathology, and bring his clinical experience to bear in setting priorities for potential drug development.



‘Still Alice,’ Still in Search of a Cure

The recently released highly acclaimed motion picture ‘Still Alice’ originated as a novel. The author, Lisa Genova of Cape Cod, Massachusetts, wrote the story of an Ivy League professor who is diagnosed with early-onset Alzheimer's disease. As a neuroscientist who actually worked at Massachusetts General Hospital with Rudy Tanzi long before her book was published, Genova knows the complexity of the science behind the disease and the frustrations over the lack of cure. Now that “Still Alice” has become a bestseller, Genova has made a plea to her readers in a reprinting of her book to support Alzheimer's research. To find out more, visit lisagenova.com/still-alice/. ■



“Still Alice” author
Lisa Genova

**Steven Wagner, Ph.D.,
Cure Alzheimer's Fund
Research Consortium**

*Principal Investigator, Department of
Neurosciences, School of Medicine,
University of California, San Diego*



Wagner has an extensive background in biochemistry and drug discovery and has numerous patents to his name. Along with Tanzi, he helped develop the first gamma-secretase inhibitor for Alzheimer's disease, which later provided the platform for gamma-secretase modulators, which control amyloid production rather than stop it altogether. "If we administer this at the right time to the right populations, it could help to slow down the disease process," said Wagner. As a member of the steering committee, he will focus on genes that may provide clues for early prevention.

**Robert Vassar, Ph.D.,
Cure Alzheimer's Fund
Research Consortium**

*Professor of Cell and Molecular
Biology, Feinberg School of
Medicine, Northwestern University*



Vassar's ongoing research focuses on the role of Abeta and the enzyme BACE1 in normal biological processes and in disease mechanisms of relevance to Alzheimer's disease. As a pioneer in Alzheimer's research, Bob has made a number of discoveries critical to progress in the field. As a member of the Genes to Therapies Steering Committee, he will help ensure proper attention is paid in the G2T research projects to the more basic aspects of how Alzheimer's-relevant genes are produced and how they affect the disease pathology.

Wilma Wasco, Ph.D.

*Associate Professor of Neurology,
Genetics and Aging Research Unit,
Massachusetts General Institute for
Neurodegenerative Disease, Harvard
Medical School and Massachusetts
General Hospital*



Wasco was part of an international collaborative effort that identified the familial Alzheimer's disease-associated presenilin 1 (PS1) and presenilin 2 (PS2) genes. Her research has evolved to focus on understanding the biological role certain AD-linked proteins play in the normal, aging and diseased brain. As research operations manager for the G2T project, Wasco 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.

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



Armour brings an extensive background in nonprofits and fundraising to Cure Alzheimer's Fund as well as an MBA from Harvard. Armour joined Cure Alzheimer's Fund 10 years ago to help lead the charge in the quest for a cure. As the administrator of the steering committee, Armour is responsible for supporting the researchers, developing and securing budgets, and being the liaison between the committee and the Cure Alzheimer's Fund Board of Directors. ■

**"Thanks to our
donors we've been
able to embark on
the ambitious G2T™
project, which is
moving us closer
to a cure."**

—Tim Armour, president and CEO,
Cure Alzheimer's Fund

**Mini Film
Festival
Raises Funds
to Fight
Alzheimer's**

In 2010 at age 59, longtime reporter and writer Greg O'Brien of Brewster, Massachusetts, was diagnosed with early-onset Alzheimer's disease. O'Brien wrote the book "On Pluto: Inside the Mind of Alzheimer's" about his experience with the disease, which David Shenk, author of "The Forgetting," produced as a short film, part of his four-film project "Living with Alzheimer's." O'Brien and Lisa Genova, also a Cape Cod, Massachusetts, native and author of "Still Alice," are friends, along with Linda Apsey of Cape Cod. Apsey wanted to help promote O'Brien's book and raise money for Alzheimer's research, so she organized a film festival and fundraiser in Chatham's historic Orpheum Theater last November. The event featured the

"Living with Alzheimer's" short films, an early-release clip from "Still Alice" and a panel discussion about Alzheimer's featuring Greg O'Brien, novelist Lisa Genova and Cure Alzheimer's Fund's Mike Curren, which was moderated by David Shenk. Apsey recruited dozens of sponsors and her efforts attracted 150 people; together they raised \$12,000 for Cure Alzheimer's Fund. To view the short films, visit livingwithalz.org. ■



From left, Greg O'Brien,
Lisa Genova and David Shenk

Financial Update

	This Quarter*	YTD*	Inception to Date
Fundraising	\$7,100,000	\$10,764,000	\$48,245,000
Expenses paid for by the founders	\$599,000	\$1,780,000	\$9,490,000
Funded research	\$1,492,000	\$5,359,000	\$28,021,000

*Numbers shown are preliminary for the period and are rounded to the nearest \$1,000.

Research Update

Research funded during the fourth quarter of 2014

Project	Researcher	Distribution Amount
Alzheimer's Genome Project™, Phase 3	Rudy Tanzi, Ph.D. Mass General/Harvard University	\$800,000
Air Pollution and APP Processing	Caleb Finch, Ph.D. University of Southern California	\$90,908
G2T: The Role of TREML2 in Alzheimer's Disease**	Marco Colonna, M.D. Washington University, St. Louis	\$100,000
Development of an APP-Specific β-Secretase Inhibitor for AD Therapy	Lawrence Rajendran, Ph.D. University of Zurich	\$100,000
G2T: Centralized Research Core**	Wilma Wasco, Ph.D. Massachusetts General	\$91,150
G2T: Research Models and Materials**	Taconic Biosciences Inc.	\$310,000
Total Distributed to Research for Q4 2014		\$1,492,058

**G2T: The Genes to Therapies™ project will determine how high-priority genes are involved in Alzheimer's pathology and how that information can be used to facilitate more rapid development of effective therapeutic interventions.

Help us fund research with the highest probability of preventing, slowing or reversing Alzheimer's disease. Donations can be made through our website, www.curealz.org/donate, 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.**

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.

Cure Alzheimer's FUND

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Mission

Fund research with the highest probability of preventing, slowing or reversing Alzheimer's disease.

Research Consortium

Develops and updates a "roadmap for research" for the most effective and efficient route to preventing, slowing or reversing Alzheimer's disease. Members research their own projects and recruit others whose work will hasten development of effective therapies for and prevention of Alzheimer's disease.

Rudolph E. Tanzi, Ph.D., Chairman, Research Consortium;
Harvard Medical School/Massachusetts 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., The Johns Hopkins University

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

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

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

Sangram S. Sisodia, Ph.D., University of Chicago

Robert Vassar, Ph.D., Northwestern University

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

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

Scientific Advisory Board

Reviews individual grant proposals for science integrity and roadmap objectives. Provides advice and counsel to Cure Alzheimer's Fund regarding scientific soundness of the roadmap.

John C. Mazziotto, M.D., Ph.D., Chairman, Scientific Advisory Board; UCLA

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

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

Paul Greengard, Ph.D., The Rockefeller University

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

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Design: **Winking Fish**



Robin and the guys from Express Oil Change

Oil Change for a Cause

Robin and Gregg Gaskins both have a family history of Alzheimer's disease, having lost their mother and grandmother, respectively, to the disease. They run a family business, Express Oil Change and Service Center in Columbia, South Carolina, and wanted to do something to help fight Alzheimer's. For one month last fall, they donated \$1 to Cure Alzheimer's Fund for every oil change they did, and encouraged their customers to donate as well, raising \$4,600. They are planning on making this an annual event. ■

Mom and Son Run for Memories

For the past two years, Kim Chan, 44, of Huntington Beach, California, has run the Long Beach half-marathon in honor of her grandfather, who died from Alzheimer's disease. This year, Kim's 11-year-old son, Ethan Lam, ran along with her, beating her time by 20 minutes. "He came in third in his age group and raised more than \$1,000 for Cure Alzheimer's Fund. I'm so proud that he was able to achieve a challenging personal goal and fundraise for a worthy cause," she said. ■



Ethan and Kim

A Champagne Birthday

Katerina Sourgiadakis of Littleton, New Hampshire, knew that celebrating her 24th birthday on the 24th of September (her "champagne birthday") needed to be something special. Her grandmother passed away from Alzheimer's disease two years before and Katerina wanted to honor her grandmother as part of her own birthday celebration. Instead of asking for gifts, Katerina hosted a Wiffle Ball game and asked her friends and family to donate at least \$5 to play. Together they raised \$550 for research. ■



GraceAdena.com

Philadelphia artist and jewelry designer Nicole D'Amico created and named her online boutique, GraceAdena.com, for her grandmother, who has had Alzheimer's since 2007. Nicole creates and sells beautiful custom jewelry not only to adorn women of all ages, but also to raise awareness for Alzheimer's disease. One of Nicole's collections, "Forget Me Not," was named as such to honor her family's fond memories of Grace before she became ill. "Although my grandmother is no longer able to reminisce with us, we remember for her," said Nicole. A portion of each purchase will go to Cure Alzheimer's Fund. ■



Nicole D'Amico



Forget Me Not Charms

SquallFest

Music has always had the power to heal, but Bryan Minks, 32, of Lexington, Kentucky, really brought that concept to life at SquallFest, an annual music festival. This year Bryan, a musician himself, decided he wanted to add a fundraising element to the event, and donated a portion of all ticket proceeds to Cure Alzheimer's Fund in an effort to raise awareness for the cause. SquallFest was held last September with 100 people in attendance. They raised \$600. ■



Musicians perform at SquallFest

Seven Stages of Alzheimer's

Toni Wombaker of Pahrump, Nevada, has a background in education and is a mother of four. She also has cared for her mother, Yvonne Jensen, 71, who has had Alzheimer's disease since 2009. "When my mom came to live with us, I didn't realize what this disease was really like, but it didn't take long to learn," she said. After seeing Cure Alzheimer's Fund advocate Alan Arnette speak, Toni was inspired to start video documenting her mom to educate others. Last October Toni held an event and showed her latest film, "The Seven Stages of Alzheimer's Through a Caregiver's Eyes," collecting more than \$100 for Cure Alzheimer's Fund. ■



Toni and Yvonne



Quentin (in the purple) fighting

'The Hero'

Quentin "The Hero" Henry, 25, of West Monroe, Louisiana, is an up-and-coming mixed martial arts fighter who supports a different charity every time he fights. Last November, he wore purple shorts with the Cure Alzheimer's Fund logo on them for one of his fights—available for viewing in 40 million homes. "I have a platform where I can raise awareness for different causes, and it's my responsibility to do something good with that platform," said Quentin. "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." ■

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SAVE THE DATE
June 6, 2015

Global Family Reunion

We are all connected in some way. That's the premise of "The Global Family Reunion," the largest family reunion in history to be held at the New York Hall of Science, site of the 1964 World's Fair. The event will include talks by celebrities, scientists and comedians and fun family activities, and will raise money for Alzheimer's. To find out more, visit globalfamilyreunion.com. ■



Global Family
REUNION



Check out our Facebook page for our most recent posts, photos, videos and more! Go to facebook.com/CureAlzheimers.

Sherry Sharp Joins Cure Alzheimer's Fund Board



Sherry Sharp, 67, of Richmond, Virginia, was married to her high school sweetheart and founder of CarMax, Richard Sharp, for almost 46 years. Last June, he lost his battle with Alzheimer's disease.

To honor her husband's memory, Sharp recently joined Cure Alzheimer's Fund's Board of Directors to help in the fight for a cure. Sharp is director of the investment firm V-Ten Capital Partners and a published author with the "Chicken Soup for the Soul, Alzheimer's and Other Dementias" edition. Her story, "Life Interrupted," was inspired by her experience as a caregiver to her husband after he was diagnosed with early-onset Alzheimer's disease in 2010. Sharp brings tremendous passion, experience and years of philanthropic efforts to her new role. ■