Public/Private Effort Yields Key Progress

An innovative new public/private collaboration between Cure Alzheimer’s Fund and the National Institute of Mental Health (NIMH) already has started to bear fruit.

In May, NIMH announced it would invest $4 million into Cure Alzheimer’s Fund’s ambitious Whole Genome Sequencing Project (WGS), which will speedily map out the entire genome’s connections to Alzheimer's disease. This sequencing project, which covers the 97 percent of the genome that until very recently was regarded widely as “junk DNA,” is the largest single-disease, family-based Alzheimer’s investigation of its kind. Cure Alzheimer’s Fund already has allocated $5.4 million to the venture, and is committed to raising the remaining $1.5 million to complete the project.

The Whole Genome Sequencing Project process will go beyond previous techniques to allow researchers to understand the genetic switches controlling Alzheimer’s genes and how they are triggered by other genes and by environmental inputs. It also will yield an enormous amount of data, which will be analyzed using sophisticated bio-informatics (mathematical algorithms). Over the next several months, the study will begin analyzing the complete genomic sequences of more than 1,500 subjects in Alzheimer’s-affected families. Researchers then will compare the human genome sequences from family members with and without the disease to identify precisely all of the variations in our genomic DNA that influence the development of Alzheimer’s.

This CAF-NIMH partnership already is paying off.

The journal Neuron recently published results of a breakthrough discovery made by Rudy Tanzi, Ph.D., chairman of the Cure Alzheimer’s Fund Research Consortium, and colleagues at Massachusetts General Hospital, and co-funded by Cure Alzheimer’s Fund and NIMH. Tanzi found that excessive levels of the protein CD33 can impede the clearance of the plaque-forming protein Abeta, the key component of senile plaques in the brains of Alzheimer’s disease patients. “Too much CD33 appears to promote late-onset Alzheimer’s by preventing support cells from clearing out Abeta-containing plaques,” explains Tanzi.

Director of NIMH Thomas R. Insel affirmed the finding’s importance. “These results reveal, for the first time, a potentially powerful mechanism for protecting neurons from damaging toxicity and inflammation in brain disorders,” says Insel.

continued on page 2 »
Funding for Alzheimer’s research consistently has lagged behind that for other major diseases, badly impeding research. “Based on what we have learned so far, we have many more good ideas than funding will allow us to explore,” says Tanzi. This trailblazing public/private endeavor allows the Alzheimer’s research community to begin the process of catching up.

“We can leverage private funds into a much stronger overall effort,” says Jeff Morby, chairman and co-founder of Cure Alzheimer’s Fund. “The WGS data will speed development of therapies, both to prevent the disease and arrest its progress. We are most grateful to the NIMH for partnering with us in this pioneering effort.”

“We are taking advantage of cutting-edge technology to discover exactly how our genes determine susceptibility to Alzheimer’s disease,” says Tanzi. “We will then use this knowledge to guide novel drug discovery efforts.”

Find Out More—Join Our Free AlzStream™ Webinar
Aug. 13 at 1 p.m. EDT
Cure Alzheimer’s Fund and the National Institute of Mental Health (NIMH) are collaborating on a strategic initiative to accelerate the development of drugs and therapies for Alzheimer’s and related dementias—a significant unmet medical need. Join our live-streamed event to learn more from presenters Rudy Tanzi, Ph.D., chairman of Cure Alzheimer’s Fund Research Consortium, and Jeff Morby, chairman of Cure Alzheimer’s Fund. David Shenk will serve as moderator. Log on to our website, www.curealz.org/webinar, a few minutes before 1 p.m. to join.

Each quarter we feature a researcher who has been instrumental to Cure Alzheimer’s Fund’s mission. These profiles tell their story—their background, their passions and the strides they’re making on the Alzheimer’s front. This quarter we are featuring Cure Alzheimer’s Fund Scientific Advisory Board member Caleb “Tuck” Finch, Ph.D., professor of gerontology and biological sciences, University of Southern California.

**Early days**
Caleb Finch was born in London in 1939 to American parents. After his father died from tuberculosis, his mother, Faith, moved the family to the small, blue-collar town of Katonah, just outside of New York City. Finch’s interest in science became evident pretty early on.

“Friends of our family were scientists, and the father of one of my classmates was a distinguished chemist, Lawrence Knox, who was African American. Yale University had a research lab on a country estate where Knox was doing fundamental organic chemistry, and I got a chance to hang around that lab.”

One summer in high school Finch observed Knox making the seven-membered aromatic ring called tropylium. “I didn’t understand but the faintest whiff of what was going on,” he says, but he got an exciting glimpse at frontier science that would lead him to his future.

At Yale, Finch realized “there was some serious science to be done on the topic of aging.”

**Education**
Finch went on to study biophysics at Yale. “My time there was very important to my career,” explains Finch. “Yale’s novel biophysics program was led by brilliant young physicists who were asking questions that traditional biologists didn’t typically ask, such as: ‘What is life?’ ‘What is development?’ ‘What is aging?’ ” As a freshman, Finch had a lab scholarship job in the biophysics department. “They took me under their wing as a greenhorn and I was privileged to join the discussion,” adds Finch. “It provided a completely different venue from the idiotic dorm conversations. I realized from conversations with Carl Woese that there was some serious science to be done on the topic of aging.”

After graduating from Yale in 1961, Finch continued his work in cell biology and went on to pursue his Ph.D. at The Rockefeller University. There, he formulated a problem of neuroendocrinology of aging that led him to his brain work. In 1969, Finch published his first fundamental paper on the neurobiology of aging, and he knew he had found his career.

**Focus on Alzheimer’s**
Three years later, Finch left the East Coast for the University of Southern California to start a program in biogerontology. “My family has always had very long-lived people who have been very sharp well into their 90s and 100s, so it was a puzzle to me to encounter people much younger...
who were failing mentally,” says Finch. This question triggered his interest in the basic neurobiology of aging. When the field of Alzheimer’s opened up in the 1980s, Finch was on the forefront of research, breaking new ground.

In 1983, he founded and became the first director of the NIH-funded Alzheimer’s Disease Research Center. “In studying clusterin (ApoJ), an inflammatory protein whose mRNA we cloned from AD brains, we discovered in 1994–5 that clusterin blocked the formation of Abeta fibrils. Instead, to our surprise, clusterin caused Abeta to form oligomers that were more toxic than the amyloid fibrils that were then thought to be the main culprit,” says Finch. Subsequently, clusterin gene variants were found by Cure Alzheimer’s Fund Research Consortium members to be an Alzheimer’s risk factor.

In 1989, USC named Finch as one of its 12 “University Distinguished Professors.” Since then he has received many of the major awards in biomedical gerontology and has co-authored 450 scientific papers and four books, most recently The Biology of Human Longevity in 2007.

Cure Alzheimer’s Fund
“I met Rudy Tanzi, Ph.D., when he was a graduate student,” he says, “and I’ve had a long-term dialogue with Rudy and many others of my esteemed colleagues, who are now part of the Cure Alzheimer’s Fund Research Consortium.” Finch joined Cure Alzheimer’s Fund’s Scientific Advisory Board a few years ago. The SAB’s role is to preserve the “scientific integrity” of research proposals and ensure they fit within the organization’s mission statement and roadmap. “My role as a member is to review grants and share ideas,” says Finch.

Today, Finch’s research lab at USC continues to train graduate and post-doctoral students for the next generation of research. “I’m interested in the role of the environment and the outcomes of brain aging, in particular how air pollution particles interact with brain aging and Alzheimer’s disease.” (For more information, visit curealz.org.)

Personal interests
When Finch is not working he enjoys walking on mountain trails, listening to music and reading books. He taught himself how to play the fiddle and used to be part of an Appalachian string band, which he says was a “beloved part of my nonscientific life for four decades.” His fiddling can be heard on Folkways-Smithsonian albums of the Iron Mountain String Band. His wife, Doris, is a fabric artist and they have a grown son, Alex. “Southern California is a fabulous place to live,” he says. “You can make a good life wherever you are, but this area is extremely rich in science, art and opportunities for top-level intellectual exchange.”

An eye toward the future
Despite the fact that Finch is in his mid-70s, he has no plans to retire. “I’m moving full-speed ahead,” he says, clearly fueled by his work. He and his colleagues are driven by two questions—How did Alzheimer’s emerge in evolution, since humans are the only primates to suffer Alzheimer’s disease with severe neurodegeneration? And why do identical twins show so much variability in terms of when they get the disease (up to 20 years apart) even though they have the same genes?

Dr. Finch is determined to find the answers. ■

Cure Alzheimer’s Fund Chairman and Co-Founder Wins Rotary Club Award
On May 18 Jeff Morby, chairman and co-founder of Cure Alzheimer’s Fund, was honored with the prestigious Paul Harris Award from Rotary District 7950. Paul Harris founded the Rotary Club more than a century ago and the award was created to recognize those who have made great contributions to society under the Rotary’s motto of “Service Above Self.”

“To our surprise, clusterin caused Abeta to form oligomers that were more toxic than the amyloid fibrils that were then thought to be the main culprit.”
The Genius of Marian

Banker White is a documentary filmmaker. He’s also the eldest son of Pam White, who was diagnosed with early-onset Alzheimer’s disease at age 61. When a son’s love for his mother and a passion for filmmaking came together, “The Genius of Marian” was born.

Marian Williams Steele—affectonately known as “Mana” by her family—was a prolific and celebrated painter who passed away from Alzheimer’s disease in 2001 at the age of 89. During her lifetime, Marian painted thousands of canvases—of her family, the New England seashore and things that inspired her. After her passing, Marian’s only daughter, Pam White, set out to write a book about her mother’s life and her art. White called it “The Genius of Marian.” But as she began writing, she herself began to show signs of mild cognitive impairment, which later was diagnosed as early-onset Alzheimer’s disease.

The birth of the project

“I moved home in 2009 and began filming my mom while she worked on her book,” says her son, Banker White. “The project started as a series of informally recorded conversations. I’d wake up in the morning and ask, ‘are we going to work on the project today, Mom?’ I felt like it was my job to help her express herself, but it was obvious that something had changed within her. Some days she would just sit by the computer trying to write and she just seemed confused. No one talked about what was going on, but we were all thinking it was Alzheimer’s.”

“During the filming, my mom started talking very openly about what it felt like to have Alzheimer’s and a lot about the shame and stigma. This project was about more than helping her finish her book—it was about helping her open up.”

The film

The 84-minute film covers three years in Pam White’s life and chronicles her daily events, from the challenges of putting on a coat to visits at the doctor’s office. We see her, first in denial about the disease, eventually begin to open up. Throughout the film she exudes warmth and happiness on screen, despite the slow erosion of her ability to dress and feed herself independently. “The Genius of Marian” is the most personal and challenging project I have ever undertaken,” adds White. “It’s a story about my extraordinary mother and my family’s efforts to come to terms with the changes brought on by her struggle with Alzheimer’s.”

Banker White grew up feeling like his mother could “do it all—and often, she did,” he says. “She worked full time while raising my siblings and me, was a loving wife, maintained deep and meaningful friendships and dedicated herself to helping others, both in her personal life and in her career as a social worker.” When Mana’s condition got too difficult to manage, the Whites moved her to an assisted living facility. “That decision haunted my mom and I think she had a deep fear that we would do the same to her,” says her son. “She had always encouraged us to talk about our feelings, especially when times were tough. That’s why it was especially painful to see her frozen by the shame of her diagnosis, unable to talk openly about what she was experiencing.”

Today, Pam White needs 24/7 care and help with just about every step of her day. But she still laughs and says, “Isn’t that just like Mana?”

“Alzheimer’s is the Number One public health crisis facing the developing world,” says Banker White. “It’s shocking that there’s so little understanding about the disease, that our health care system isn’t prepared to deal with it, and that as individuals and families we don’t know how to plan for it. I know our family’s story will resonate with many.”

The launch

“The Genius of Marian” premiered at the Tribeca Film Festival in April 2013 and Cure Alzheimer’s Fund hosted a reception with the filmmakers before one of the screenings. The film was one of 10 chosen for the competition category from the 400 that were shown. A nationwide screening series launched in June 2013, and “The Genius of Marian” recently played as a selected feature film for the American Film Institute’s AFI DOCS in Washington, D.C.—the biggest documentary festival in the country. The film is slated to air nationally on public television in Spring 2014.

For more information, please visit www.geniusofmarian.com.
Running 4 Answers’ Most Successful Event to Date
On April 27, a record-breaking 300 people registered for the fourth annual Running 4 Answers road race/fun run in Roseland, N.J. Co-founded by Carolyn Mastrangelo and Barbara Geiger to fight Alzheimer’s disease, this year’s event was the most successful to date—raising $45,000 for Cure Alzheimer’s Fund and bringing the four-year total of funds raised to $140,000. Each year, the race continues to grow and this year it was featured on the local high school’s calendar, which brought in an additional 100 runners. Even better, participants finally had great weather: a beautiful, sunny, warm morning. “And before the day was done, Barbara and I were discussing what could be done next year to make the fifth annual event even better,” says Mastrangelo.

For more information, visit www.running4answers.org.

Second Graders Rally for a Cause
You don’t have to be a grown-up to realize what a difference giving back can make. Last May, after doing some research on Cure Alzheimer’s Fund, a group of second-graders from Ellis School, a K–8 public school in Fremont, N.H., put fliers around the school, made an announcement over the PA system and reached out to their families to support Cure Alzheimer’s Fund. Afterward, the children sent an envelope with a short letter, signed by Nate Levine and Kyle Brown, with $83.17 enclosed. The note said simply: “We hope this helps.”

Alzheimer’s Benefit Concert

Last spring, a group of students at Case Western Reserve University in Cleveland organized a campuswide alternative rock concert to raise money for Cure Alzheimer’s Fund. The band, Alzhernative Sounds, had pledged to do an annual event to benefit different charities. “This year, I struggled to find the right cause,” explains Ki Oh, a double biology and chemistry major and drummer for the band. “At the time I was enrolled in a psychology course on Alzheimer’s. As I learned about the pathology of the disease and the effects it has on friends and family, and even our health care system, I knew I had found our cause. It really hit home that more research is needed for an effective cure.”

Oh’s Phi Kappa Psi fraternity brothers helped support the cause by making announcements about the event, asking professors to give extra credit for attending the concert and posting fliers all over campus. Before the concert, the band showed a DVD about Cure Alzheimer’s Fund to educate the audience about the disease. Then Alzhernative Sounds rocked out to music by The Killers, Vanessa Carlton, Maroon 5 and others, raising more than $500 for Cure Alzheimer’s Fund.

Running for a Reason
Kim Chan made every step count in the fight against Alzheimer’s disease this past May when she ran her first half-marathon—the OC in Orange County, Calif.—raising $3,100 for the cause. At each mile marker throughout the race, What are you running for? was posted. “I ran for my grandfather who passed away from Alzheimer’s, and how much I miss him,” says Chan.

“Throughout my training, many people talked to me about their family members with Alzheimer’s and I realized that this disease affects so many lives. I ran to find a cure.”

Chan has seen the effects of Alzheimer’s firsthand and the emotional toll on all involved. “Fortunately, Cure Alzheimer’s Fund has some of the best scientific minds in the industry fighting this disease.”

We thank all of you who devote time, energy and money to end Alzheimer’s disease. You are all heroes.
High Schooler Organizes Run for a Cure

When high school junior Mike Napoli learned his friend’s mother had been diagnosed with early-onset Alzheimer’s disease at age 50, he wanted to do something to help. “Since my friend Riley’s mom, Marcia Stanford, is an avid runner and fitness instructor, I felt that a running event would be the best way to support her and her family,” says Napoli.

With several volunteers, including his mother, Napoli contacted local businesses about the event, held a school fundraiser, put an article in his local paper and sent out e-blasts. “It seems that everyone knows someone who has or had Alzheimer’s, so people really helped spread the word,” he says.

Mike Stanford, Marcia’s husband of 20 years, created a website to help educate people about the disease. “I’ve learned firsthand that Alzheimer’s is not just an ‘old person’s’ disease,” he says. “Today, Marcia’s speech impairment is significant. She can no longer drive, cook or do the things she used to do as a mother to our kids. There is no cure for Alzheimer’s, no way to prevent it and no way to slow it down. Finding a cure is a must.”

After researching many charities, Napoli chose Cure Alzheimer’s Fund, “because 100 percent of donations go directly to research.” The Branchburg Race Against Alzheimer’s was held in Branchburg, N.J., on Sunday, June 9. The 5K run and 1 Mile Fun Run/Walk welcomed individuals and families, and all proceeds raised from the event—nearly $55,000—went directly to Cure Alzheimer’s Fund in hopes of finding a cure.

For more information about Marcia’s journey, visit http://marciaearlyonsetalzheimers.blogspot.com.

2013 Hero Events

To find out more about the events below, visit curealz.org/events/field.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 24</td>
<td>“The Ups and Downs of Living with Alzheimer’s”</td>
<td>Hillsboro, Fla.</td>
</tr>
<tr>
<td>Feb. 26</td>
<td>Boynton Beach Golf Tournament</td>
<td>Boynton Beach, Fla.</td>
</tr>
<tr>
<td>March 24</td>
<td>Benefit Concert</td>
<td>Cleveland</td>
</tr>
<tr>
<td>April 15</td>
<td>Marathon</td>
<td>Boston</td>
</tr>
<tr>
<td>April 27</td>
<td>Running 4 Answers Fun Run/Walk</td>
<td>Roseland, N.J.</td>
</tr>
<tr>
<td>April 28</td>
<td>Mountain Lake Golf Tournament</td>
<td>Mountain Lake, N.J.</td>
</tr>
<tr>
<td>May 1</td>
<td>School Fundraiser</td>
<td>Fremont, N.H.</td>
</tr>
<tr>
<td>May 5</td>
<td>Half-Marathon</td>
<td>Newport Beach, Calif.</td>
</tr>
<tr>
<td>June 9</td>
<td>Branchburg Race Against Alzheimer’s</td>
<td>Branchburg, N.J.</td>
</tr>
<tr>
<td>July 9</td>
<td>“The Ups and Downs of Living with Alzheimer’s”</td>
<td>Wellesley, Mass.</td>
</tr>
<tr>
<td>July 21</td>
<td>Dick Hollander Golf Open</td>
<td>Laytonsville, Md.</td>
</tr>
<tr>
<td>Sept. 14</td>
<td>Swim to Cure Alzheimer’s</td>
<td>Kingsport, Tenn.</td>
</tr>
</tbody>
</table>

Intern Moves On

A recent graduate of Beaver Country Day, Nolan Flaherty interned at Cure Alzheimer’s Fund this past May as part of his senior project. “I’ve had personal experience with Alzheimer’s in my family and wanted to work for an organization that has a real focus on finding a cure,” says Flaherty. During his time at Cure Alzheimer’s Fund, he archived files and documented the organization’s important milestones in preparation for its upcoming 10-year anniversary. “I worked with a great group of people who are making important strides in combating Alzheimer’s,” adds Flaherty. He will be attending New York University in the fall with a focus on psychology and social policy and plans to pursue a career in public health and geriatric psychiatry.

Cure Alzheimer’s Fund Welcomes New Marketing Manager

Madeleine (Maddie) Adelson first joined Cure Alzheimer’s Fund as a summer intern in 2012. She stayed on during the year and now has officially joined the staff full time. As a recent graduate of Tufts University with a bachelor’s degree in philosophy, Adelson hopes to learn more about the nonprofit world while helping to develop a successful marketing strategy. “I’m excited to be working at Cure Alzheimer’s Fund full time and supporting such an important cause,” she says.

Maddie at her Tufts University commencement.
## Financial Update

<table>
<thead>
<tr>
<th></th>
<th>This Quarter</th>
<th>YTD*</th>
<th>Inception to date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fundraising</strong></td>
<td>$1,657,339</td>
<td>$3,169,339</td>
<td>$33,292,206</td>
</tr>
<tr>
<td><strong>Expenses paid for</strong></td>
<td>$354,654</td>
<td>$703,482</td>
<td>$6,688,278</td>
</tr>
<tr>
<td>by the founders</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Funded research</strong></td>
<td>$1,000,000</td>
<td>$2,526,000</td>
<td>$20,612,484</td>
</tr>
</tbody>
</table>

*Numbers shown are preliminary for the period.

## Research Update

Research funded during the second quarter of 2013

<table>
<thead>
<tr>
<th>Project</th>
<th>Researcher</th>
<th>Distribution Amount</th>
</tr>
</thead>
</table>
| Effects of Inhibitors of Monoacylglycerol Lipase on Behavior and Synaptic Plasticity of Ts65Dn Mice, a Genetic Model of Down Syndrome | William Mobley, MD, Ph.D.  
University of California, San Diego | $100,000 |
| Elucidation of the Mechanism of Action of Gamma Secretase Modulators      | Steven L. Wagner, Ph.D.  
University of California, San Diego | $150,000 |
| Whole Genome Sequencing                                                  | Rudy Tanzi, Ph.D.  
Mass General /Harvard University | $750,000 |

Total Distributed to Research for 2Q 2013 $1,000,000

Help us fund research with the highest probability of slowing, stopping or reversing Alzheimer’s disease. Donations can be made through our website, [www.curealz.org/donate](http://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)](tel:877-CURE-ALZ) for further information.
Check out our Facebook page for our most recent posts, photos, videos and more! Go to www.facebook.com/CureAlzheimers.

Join our e-mail list! Go to www.curealz.org.

Scan this QR code or text ALZ to 50555 to join our mobile community.

SMS subscription service. Up to 4msg/mo. Msg & Data Rates May Apply. Text STOP to 50555 to STOP.

Full terms: mGive.com/E
Privacy policy: mGive.org/P

Save the Date for Our Fall Symposium:
Oct. 9, 2013

Taking Control of Alzheimer’s Disease—New Location!
On Wednesday, Oct. 9, from 3:00–5:30 p.m. at the Revere Hotel in Boston, leading researchers from the Cure Alzheimer’s Fund Research Consortium, including Sam Gandy, Ph.D., of the Icahn School of Medicine at Mount Sinai, and Chairman Rudy Tanzi, Ph.D., from Harvard Medical School/Massachusetts General Hospital, will gather to discuss new information on research toward finding a cure. While the symposium is free, registration is required, so please go to http://curealz.org/symposium to sign up.