

Part the Cloud Challenge Aggressively Pursues Alzheimer's Treatments

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-MIKEY HOAG

What if a drug could slow cognitive decline by moderating electrical activity in brain cells? Or prevent tau protein from forming into toxic tangles by modifying brain cell structure and nourishment? Or slow the progression of Alzheimer's disease by stimulating cell-to-cell communication or delivering brain-health-boosting plant compounds?

These are just a few of the questions the Alzheimer's Association has explored in early-stage human trials, thanks to the vision of partner Mikey Hoag and the exciting new avenues of research funded by the Part the Cloud Translational Research Program. Founded in 2012, Part the Cloud is committed to moving promising ideas across a space in drug development where many stall due to lack of funding — and into clinical studies to determine if they will be effective treatments for the millions of people affected by Alzheimer's.

"I want to see an end to this devastating disease in my lifetime, so I decided to create a way to move science forward in a meaningful way," Hoag says. "Part the Cloud addresses a critical gap in funding that has historically been a stumbling block in moving promising ideas into human testing."

Most recently, Hoag worked with the Alzheimer's Association to challenge the scientific community to propose studies targeting neuroinflammation for possible therapy development. Inflammation is a natural immune system response where the body mounts a defense to fight against infection and other foreign bodies, as well as repairing damaged tissue. Persistent or misdirected inflammation, however, can damage otherwise healthy tissue: Witness the destruction of joint cartilage that occurs in arthritis or nerve damage in multiple sclerosis. Similarly, inflammation in the brain may help protect it from harm, but too much inflammation may damage the brain's delicate nerve cells and intricate connections.



Dr. Bruce Lamb (left), a member of the Alzheimer's Association Medical and Scientific Advisory Council, helped design the Challenge on Neuroinflammation request for proposals; Dr. Huntington Potter (right) was awarded one of the four grants.

"Innovative paths to discovery are critical to finding a treatment for Alzheimer's disease, and innovative funding mechanisms are crucial for charting those paths," says Maria Carrillo, Ph.D., Alzheimer's Association chief science officer. "We welcome the collaboration with Mikey and other donors to provide a blueprint for targeting new avenues for Alzheimer's treatment, and overcoming funding challenges to maximize our chances for success."

GOAL-DRIVEN COMPETITION TO DRIVE PROGRESS

The 2016 Part the Cloud Challenge on Neuroinflammation awarded \$1 million each to four studies to advance current research to the next stage of clinical trials. This unique, goal-driven competition will then offer an additional \$3 million to the study that demonstrates the most promise for treating this devastating disease after two years — bringing

total funding for the initiative to \$7 million, all raised through the Part the Cloud movement.

"We hope the competition will speed the rate of discovery and deliver a new and effective treatment or prevention strategy to doctors' offices and people's medicine cabinets more quickly," says Hoag.



Dr. Maria Carrillo and Cindy Kaldor, an advocate living with Alzheimer's, at Part the Cloud 2015

Each of the funded projects will be evaluated on areas such as safety and ability to influence underlying biological processes; results from these trials will determine which new treatment has the greatest potential to advance through successive clinical trial phases.

"The importance of these large Part the Cloud grants cannot be overstated. The funding will certainly propel novel research forward toward a cure or therapy for Alzheimer's disease."

-DR. HUNTINGTON POTTER

The Association has awarded Part the Cloud Challenge on Neuroinflammation grants to:

» **Isidro Ferrer, M.D., Ph.D.,**
Institute of Health Carlos III,
Barcelona, Spain.

Dr. Ferrer is conducting a Phase II clinical trial to determine if the drug Sativex, a cannabis-based liquid medication that was previously tested as a cancer therapy, helps slow the progression to Alzheimer's disease in people with mild cognitive impairment.

» **John Olichney, M.D.,**
University of California, Davis.
Dr. Olichney's study will test if the drug Senicapoc — shown to be safe in clinical trials of sickle cell anemia and asthma treatment — can reduce brain inflammation, alter the rate of brain amyloid accumulation, and improve memory in people with early Alzheimer's disease or mild cognitive impairment.

Previous research found that Senicapoc targets a unique cellular process, helping to reduce brain inflammation, prevent nerve cell damage and improve memory in mice with an Alzheimer's-like condition.

» **Anthony Oliva, Ph.D.,**
Longeveron LLC, and
Bernard Baumel, M.D.,
University of Miami Miller
School of Medicine.

Drs. Oliva and Baumel will lead a Phase I clinical trial to examine the safety and efficacy of a novel therapy using stem cells derived from healthy adult donors and delivered into the bloodstream of people with mild Alzheimer's disease. In past research, this type of stem cell therapy has demonstrated the ability to target and reduce inflammation, promote tissue repair and improve brain function in mouse models of Alzheimer's disease.

» **Huntington Potter, Ph.D.,**
University of Colorado School
of Medicine.

Dr. Potter will lead a Phase II clinical trial of the FDA-approved drug Leukine, which reduces and prevents infection in people who have received chemotherapy, among people with mild-to-moderate Alzheimer's disease. Leukine is a manufactured form of a protein that has been used to remove sticky plaques — a hallmark of Alzheimer's disease — and reverse memory problems in mice with an Alzheimer's-like condition.

"The importance of these large Part the Cloud grants cannot be overstated," says Dr. Potter. "The funding will certainly propel novel research forward toward a cure or therapy for Alzheimer's disease."

PART THE CLOUD: A LEGACY OF IMPACT



Since January 2013, the Alzheimer's Association has awarded 17 Part the Cloud research awards spanning a variety of targets in Alzheimer's disease research. Funded projects are led by some of the nation's most prestigious scientists, who come together at the Part the Cloud luncheon to share scientific insights with friends and supporters who are interested in accelerating Alzheimer's research.

In addition to the projects funded by the 2016 Challenge on Neuroinflammation, Part the Cloud has funded research projects led by:

» **Adam L. Boxer, M.D., Ph.D.,**
University of California,
San Francisco

» **Ahmad Salehi, M.D., Ph.D.,**
Palo Alto Institute for
Research & Education, Inc.

» **Dale E. Bredesen, M.D.,**
Buck Institute for Research
on Aging

» **Russell Swerdlow, M.D.,**
University of Kansas
Medical Center

» **Stephen Cunnane, Ph.D.,**
University of Sherbrooke

» **Keith Vossel, M.D.,** University
of California, San Francisco,
and Gladstone Institute for
Neurological Disease

» **Mitchel Kling, M.D.,**
University of Pennsylvania

» **Michael Weiner, M.D.,**
University of California,
San Francisco

» **Frank Longo, M.D.,** Stanford
University, and **Anne Longo,**
Pharmatrophix, Inc.

» **Tim West, Ph.D.,**
C2N Diagnostics

» **Paul A. Newhouse, M.D.,**
Vanderbilt University

» **Whitney Wharton, Ph.D.,**
Emory University

» **Giulio Maria Pasinetti,**
M.D., Ph.D., Icahn School
of Medicine at Mount Sinai