

## 2016 Alzheimer's Association Grant Awards and Strategic Research Initiatives

— Portfolio Profile

---

In 2016 the Alzheimer's Association® made investments totaling nearly \$25 million in more than 135 scientific investigations. These include grant awards to 120 projects funded through its International Research Grant Program (IRGP), representing proposals ranked highest by a peer-reviewed process in an extremely competitive field of over 730 applications that were submitted from more than 1,200 letters of intent.

Since 1982 the Alzheimer's Association has invested over \$375 million in more than 2,400 scientific investigations. As the world's largest nonprofit funder of Alzheimer's research, the Alzheimer's Association is currently investing more than \$90 million in over 350 best-of-field active projects in 18 countries.

### Research Categories

**Molecular Pathogenesis and Physiology of Alzheimer's Disease – 45%** of the funded projects are exploring the mechanisms that contribute to disease-related processes including the production of beta-amyloid, the mediators of beta-amyloid's toxicity and its adverse effect on cell-to-cell communication, the abnormal chemical alterations of tau, and the functions of related proteins implicated in Alzheimer's disease pathology. These projects may also examine the cellular properties and functions that normally protect and maintain neurons in the brain.

**Diagnosis, Assessment and Disease Monitoring – 24%** of the projects are investigating brain imaging, biomarkers, and clinical tools that may result in earlier and more accurate diagnoses, timelier interventions, and effective disease monitoring.

**Translational Research and Clinical Interventions – 23%** of the projects are exploring novel treatment strategies and non-pharmacological interventions.

**Epidemiology – 5%** of the projects are examining various factors that may contribute to Alzheimer's and other dementias, including blood vessel damage and genetic risk factors.

**Care, Support and Health Economics of Alzheimer's Disease – 3%** of the projects are studying ways to improve care for people with dementia through new technologies and exploring the values and beliefs of diverse cultures that impact the use of health services.

### Specific Grants Competitions

*(Number of grants per competition are indicated in parentheses)*

**(20) Alzheimer's Association Research Grants (AARG)** to fund investigators who are less than 15 years past their doctoral or medical degree, or investigators that are new to the Alzheimer's and related dementias field of research. The purpose of this program is to provide funding for innovative ideas that will develop preliminary or pilot data, to test procedures and to develop hypotheses.

**(5) Alzheimer's Association Research Grants to Promote Diversity (AARG-D)** similar to the AARG, with focus on investigators who are currently underrepresented at academic institutions in Alzheimer's or related dementias research. The objective of this award is to increase the number of highly trained investigators from diverse backgrounds whose basic, clinical and social/behavioral research interests are grounded in the advanced methods and experimental approaches needed to solve problems related to Alzheimer's and related dementias in general and in health disparities populations.

**(25) Alzheimer's Association Research Fellowships (AARF)** to support exceptional researchers who are engaged in their post-graduate work (i.e. postdoctoral fellows) and before they have their first independent faculty positions (i.e. Assistant Professor) with the goal of bridging the fellow to faculty positions of researchers.

**(7) Alzheimer's Association Research Fellowships to Promote Diversity (AARF-D)** similar to the AARF, with focus on increasing support to exceptional researchers who are currently underrepresented at academic institutions in Alzheimer's or related dementias research.

**(5) Alzheimer's Association Clinical Fellowships (AACF)** to support research training in Alzheimer's and related dementias for clinical fellows who have completed their residency (MD), postdoctoral fellowship (PhD), or both (MD/PhD). For the purpose of this fellowship, clinical research is defined as patient-oriented research conducted with human subjects, or translational research specifically designed to develop treatments or enhance diagnosis of neurological disease. This includes the Robert Katzman Fellowship, in collaboration with the American Academy of Neurology and the American Brain Foundation.

**(1) Alzheimer's Association Clinical Fellowship to Promote Diversity (AACF-D)** similar to the AACF, with focus on increasing support to exceptional clinical fellows who are currently underrepresented at academic institutions in clinical research training in Alzheimer's and related dementias.

## 2016 Alzheimer's Association Grant Awards and Strategic Research Initiatives

— Portfolio Profile

---

### Specific Grant Competitions (cont.)

**(23) New Investigator Research Grants (NIRG)** to grow the next generation of scientists with funding that enables them to gather preliminary data, test procedures and develop hypotheses. These grants advance research while supporting the early-career development of scientists who have earned their doctoral degrees within the last 10 years.

**(1) New Investigator Research Grant to Promote Diversity (NIRGD)** to fund investigators currently underrepresented at academic institutions in Alzheimer's or related dementias research. They are conducting basic, clinical and social/behavioral research grounded in the advanced methods and experimental approaches needed to solve problems related to Alzheimer's.

**(2) Mentored New Investigator Research Grants to Promote Diversity (MNIRGD)** to help close the gap between diverse and non-diverse investigator populations, as well as providing a forum for further training and support with a senior scientist mentor. They are intended to enhance the capacity of scientists to conduct basic, clinical, and social/behavioral research.

**(4) Zenith Fellows Awards (ZNTH)** to support senior scientists who have made significant contributions to the field of Alzheimer's and related dementia research, and who continue to pursue promising lines of investigation in disease mechanisms, diagnosis, novel treatments, and quality care.

**(2) Mechanisms of Cellular Death in Neurodegeneration (MCDN)** awards in collaboration with Alzheimer's Research UK and the Weston Brain Institute, to enable researchers to discover and understand the mechanisms that underlie brain cell loss in neurodegenerative diseases, and to identify potential therapeutic interventions to sustain healthy brain function.

**(2) Part the Cloud Translational Research Funding for Alzheimer's Disease (PTCR)** awards in partnership with the Part the Cloud initiative to increase research efforts in Phase I and Phase II clinical trials directed towards Alzheimer's disease and other dementias internationally. These awards have been made possible by funding from Part the Cloud, benefiting the Alzheimer's Association.

**(4) Part the Cloud Challenge on Neuroinflammation (PTC-C)** awards in partnership with the Part the Cloud initiative to support early-stage human clinical trials that target brain inflammation as an innovative avenue for Alzheimer's disease therapy. At completion of the 2-year award, researchers will have the opportunity to compete for an additional prize of up to \$3M to further their proposed therapy's development. These awards have been made possible by funding from Part the Cloud, benefiting the Alzheimer's Association.

**(8) Collaboration 4 Cure (C4C)** awards to unite research infrastructure and expertise from San Diego area institutions with the goal of stimulating collaborative translational research to speed the path to Alzheimer's disease drug development.

**(11) Biomarkers Across Neurodegenerative Disease (BAND)** awards in collaboration with Alzheimer's Research UK, The Michael J. Fox Foundation for Parkinson's Research, and the Weston Brain Institute, to enable researchers to analyze data of existing cohorts to discover biomarkers, develop assay standardization, identify genetic profiles, and optimize imaging modalities across Alzheimer's disease and other dementias to increase understanding of the similarities or differences between these diseases and to help stratify populations and possible treatments.

## 2016 Alzheimer's Association Grant Awards and Strategic Research Initiatives

— Portfolio Profile

---

### Strategic Research Initiatives

The Alzheimer's Association is able to identify and enable special projects with elevated potential for advancing the field. In 2016 the Association supported **15 new and ongoing strategic research initiatives** to advance emerging issues and facilitate global collaboration.

**Accelerating Medicines Partnership - Alzheimer's Disease Project (AMP-AD)** is a collaboration between the National Institutes of Health (NIH), biopharmaceutical companies and non-profit organizations such as the Alzheimer's Association to develop new diagnostics and treatments by jointly identifying and validating promising biological targets in Alzheimer's.

**Alzheimer's Disease Neuroimaging Initiative (ADNI) Hippocampal Sub-Region Standardization** to develop methodologies and standardization protocols to measure changes in the volume of hippocampal sub-regions of the brain.

**Alzheimer's Prevention Initiative (API) Generation Study** to determine whether therapies targeting amyloid may prevent or delay Alzheimer's symptoms in people who are at high genetic risk for developing the disease because they have two copies of the APOE4 gene.

**Autosomal Dominant and Late Onset Alzheimer's Disease (DIAN-ADNI) Comparison Study** to characterize similarities and differences in biomarkers, memory changes and disease progression in individuals with genetically-based, younger-onset Alzheimer's disease and individuals with the more common sporadic, late-onset Alzheimer's disease.

**Dominantly Inherited Alzheimer's Network Trials Unit (DIAN-TU)** to test therapeutics on individuals with genetically-based, younger-onset Alzheimer's disease. **DIAN-TU Tau Imaging (Add-On)** to develop and validate tau PET imaging in DIAN participants and investigate how specific treatments may alter the accumulation of abnormal tau in the brain.

**DIAN-TU Next Generation (NexGen)** to accelerate the testing of new potential Alzheimer's therapies and novel diagnostic approaches in people with genetically-based, younger-onset Alzheimer's disease using innovative trial design and laying the foundation for the next generation of clinical trials in Alzheimer's disease.

**Global Alzheimer's Association Interactive Network (GAAIN)™** is a cloud-based, digital network that provides researchers access to a vast repository of shared Alzheimer's research data and the sophisticated analytical tools and computational power needed to analyze it. Support from the Alzheimer's Association will facilitate data sharing through GAAIN for the **Framingham Heart Study (FHS)** and the **Australian Imaging, Biomarkers & Lifestyle Study of Aging (AIBL)**.

**Imaging Dementia - Evidence for Amyloid Scanning (IDEAS) Study** to determine the clinical value of using brain amyloid PET imaging in diagnosing and managing treatment of individuals age 65 and older with mild cognitive impairment (MCI) or dementia of uncertain cause. The IDEAS Study is led by the Alzheimer's Association and managed by the American College of Radiology (ACR) and the American College of Radiology Imaging Network (ACRIN).

**Longitudinal Evaluation of Amyloid Risk and Neurodegeneration (LEARN)** is a first-of-its-kind natural history study to determine whether the rate of cognitive decline during the development of Alzheimer's is directly related to biological markers, such as beta-amyloid and tau. LEARN is a companion study to the Anti-Amyloid Treatment in Asymptomatic Alzheimer's Disease (A4) Study.

**Preclinical Alzheimer's Disease (AD) Consortium** to support a collaboration among four large research studies to identify and examine biomarker changes in the earliest phases of Alzheimer's, before memory loss occurs, with the goal of informing clinical trial design for early phase treatments of Alzheimer's disease.

**Quality Control Program for CSF Biomarkers (QC-CSF)** to improve the quality of all aspects of cerebrospinal fluid (CSF) biomarker measurements, enabling values to be harmonized worldwide and helping both clinical trials and standard medical practice. QC-CSF is a key initiative of the Alzheimer's Association's Global Biomarker Standardization Consortium (GBSC).

**Understanding Vascular Contributions to Cognitive Impairment and Alzheimer's Disease (VCID)** to further investigate how accumulation of beta-amyloid in the blood vessels of the brain and cellular stress mechanisms are involved in Alzheimer's and related dementias.

### Peer-Review Evaluation

The Alzheimer's Association Medical and Scientific Relations Division engages a panel of volunteer scientists to evaluate the merits of each proposal anonymously. More than 1,000 reviewers from 31 countries provided over 2,000 reviews in 2016. The Association's Medical and Scientific Advisory Council (MSAC) ensures the fairness of these evaluations and fine-tunes each year's awards so that the overall portfolio covers established research areas and moves the field forward in important new directions. The Association estimates that approximately 36 percent of the proposals received in 2016 deserved funding. Nearly 17 percent could be supported with available resources.

Research grants awarded by the Alzheimer's Association have indirect costs capped at 10%. The Association strictly enforces that 90% of the grant goes directly to funding the research itself.