# Coordinating Center for Genetics and Genomics of Alzheimers Disease (CGAD)

https://neurodegenerationresearch.eu/survey/coordinating-center-for-genetics-and-genomics-of-alzheimers-disease-cgad/

**Principal Investigators**

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**Contact information of lead PI**
**Country**

USA

**Title of project or programme**

Coordinating Center for Genetics and Genomics of Alzheimers Disease (CGAD)

**Source of funding information**

NIH (NIA)

**Total sum awarded (Euro)**

€ 10,678,085.32

**Start date of award**

15/04/2016

**Total duration of award in years**

1

**The project/programme is most relevant to:**

Alzheimer's disease & other dementias

**Keywords**

Acquired Cognitive Impairment... Aging... Alzheimer's Disease... Alzheimer's Disease including Alzheimer's Disease Related Dementias (AD/ADRD)... Biotechnology... Brain Disorders... Dementia... Genetics... Human Genome... Minority Health for IC Use... Neurodegenerative

**Research Abstract**

? DESCRIPTION (provided by applicant): The goal of Alzheimer's disease (AD) genetics research is to identify genetic variants that cause, influence risk, or protect against this disordr, and to identify the underlying genes affected by these variants. These genes are then potential therapeutic targets. The goal of the NIA Coordinating Center for Genetics and Genomics of Alzheimer's Disease (CGAD, this application) is to facilitate AD gene discovery by coordinating analysis of all AD-relevant data. As mandated by RFA AG16001, there are 3 cores and an Overall Component. The mandated cores are: 1) Administrative (Core A); 2) Data Management, Harmonization, and Information Transfer Core (Core B); and 3) Biostatistics and Data Analysis Core (Core C). As mandated by RFA AG16001, CGAD will assemble all data (Cores A and B) generated by the Alzheimer's Disease Sequence Project (ADSP) from both the Discovery Phase and the Replication Phase, and all data from non-ADSP sources (Core A) including that generated by grants funded under RFA AG16002. CGAD will; 1) create and support a collaborative network of all CGAD, ADSP, RFA AG16002, and other AD genetics investigators (Core A); 2) harmonize all genetic and phenotype data and fully annotate all variants (Core B); 2) design all harmonization and annotation protocols (Core C, implemented by Core B); 3) design analysis protocols for all data (Core C); 4) implement analyses plans (Core C, except for computationally intensive protocols that will be executed by Core B); 5) broadly distribute primary data, harmonized annotated analysis-ready files, and analyses results including depositing appropriate data into qualified access databases [National Institute on Aging Genetics of Alzheimer's Disease Storage site (NIAGADS) and database of Genotypes and Phenotypes (dbGaP)] (Core B). As mandated by RFA AG16001, all harmonization protocols and analyses plans will be refined in collaboration with all ADSP, RFA AG16002, and other AD genetics investigators. The Overall Component describes in detail the proposed activities and analyses to be executed by the cores. We will analyze Replication Phase data using single and gene-based analyses. Both single nucleotide variants (SNVs) and structural variants (SVs) will be analyzed. We will perform a combined analysis of Replication and Discovery Phase data. We will also perform an Extended Replication Phase using non- ADSP data. We will analyze data from all phases in a pathway network analysis, an interaction analysis, and a polygenic risk score. These gene-discovery activities will lead to potential targets for developing therapeutics.

**Lay Summary**

PUBLIC HEALTH RELEVANCE: Alzheimer's disease (AD) affects 3-5 million people costing the US over $100 billion dollars/year. By 2050, there will be 16 million people with AD costing the US $1 trillion dollars/year. There is no way to prevent AD, and current therapies are marginally effective and do not halt disease progression. More fundamental knowledge on disease mechanism is needed and will come in part from the genetic studies proposed here.

**Further information available at:**

**Types:**
Investments > €500k

**Member States:**
United States of America

**Diseases:**
Alzheimer's disease & other dementias

**Years:**
2016

**Database Categories:**
N/A

**Database Tags:**
N/A