

2013 Alzheimer's Association® Grant Awards Portfolio
—Organized by research categories

Molecular Pathogenesis and Pathophysiology of Alzheimer's Disease

Paul Axelsen, M.D.
University of Pennsylvania
Philadelphia, Pennsylvania

Maternally determined predisposition to oxidative stress

2013 Investigator-Initiated Research Grant— \$240,000 over 3 years

What is the role of oxidative stress and maternal diet in the susceptibility to Alzheimer's disease?

Francesca Bartolini, Ph.D.
Columbia University Medical Center
New York, New York

Regulation of Microtubule dynamics by amyloid-beta peptide

2013 New Investigator Research Grant—\$100,000 over 2 years

What are the effects of beta-amyloid on microtubule structure and remodeling?

Natàlia Carulla, Ph.D.
Institute for Research in Biomedicine
Barcelona, Spain

Well-defined synthetic mimics for brain-derived A β dimers

2013 New Investigator Research Grant—\$99,682 over 2 years

How do toxic forms of beta-amyloid, called dimers, form larger clumps and how do they cause nerve cell toxicity?

Angel Cedazo-Minguez, Ph.D.
Karolinska Institute
Stockholm, Sweden

Unraveling the role of thioredoxin-80 in Alzheimer's disease pathology

2013 New Investigator Research Grant—\$88,880 over 2 years

Do abnormal levels of Trx80 in the cerebrospinal fluid represent an early warning sign of dementia?

Paramita Chakrabarty, Ph.D.
University of Florida
Gainesville, Florida

Investigating the role of neuroinflammation in tau pathology

2013 New Investigator Research Grant—\$99,332 over 2 years

Does inflammation play a role in toxic tau accumulation?

Karen Chang, Ph.D.
University of Southern California
Los Angeles, California

Functional protein interactions in Alzheimer's disease and Down syndrome

2013 Down Syndrome/Alzheimer's Disease Investigator-Initiated Grant—\$295,128 over 3 years

Does increased Nebula production help protect the functions of axons, and what are the mechanisms underlying Nebula's protective effects?

Itzik Cooper, Ph.D., B.Sc., M.Sc.
Sheba Medical Center
Ramat Gan, Israel

BBB disruption as mechanisms for cognitive impairment in diabetes

2013 New Investigator Research Grant—\$99,990 over 2 years

How do differences in blood-brain barrier damage and insulin activity affect memory and levels of dementia-related brain proteins?

Eva De Lago, Ph.D.
Institute of Neurochemical Research
Madrid, Spain

Role of the endocannabinoid system in TDP43-related dementia

2013 New Investigator Research Grant—\$89,100 over 2 years

Do drugs activating the endocannabinoid system protect against nerve cell damage in animals with abnormal levels of the protein TDP43?

Paula Desplats, Ph.D.
University of California—San Diego
La Jolla, California

DNA methylation alterations in the course of Alzheimer's disease

2013 New Investigator Research Grant to Promote Diversity—\$99,998 over 2 years

How are various inflammatory genes affected by DNA methylation at different stages of Alzheimer's disease?

John Fryer, Ph.D.
Mayo Clinic
Jacksonville, Florida

The Role of CLU and LCN2 in Alzheimer's disease and normal cognitive function

2013 New Investigator Research Grant—\$100,000 over 2 years

How does loss of clusterin or lipocalin-2 affect the development of Alzheimer's disease characteristics, including the development of amyloid plaques, as well as effects on learning and memory?

Tae Ho Lee, Ph.D.
Beth Israel Deaconess Medical Center
Boston, Massachusetts

Functional studies of phosphorylation regulation in Alzheimer's disease

2013 New Investigator Research Grant—\$100,000 over 2 years

What is the role of the proteins PIN1 and DAPK1 in the development and progression of Alzheimer's disease?

Charles Hoeffler, Ph.D.
New York University School of Medicine
New York, New York

The toxic effects of pathological tau on synaptic plasticity

2013 Mentored New Investigator Research Grant to Promote Diversity—\$150,000 over 3 years
How do neurofibrillary tangles formed by tau affect synaptic plasticity?

Kari Hoffman, Ph.D.
York University
Toronto, Ontario, Canada

Effects of direct focal stimulation on memory and neural function

2013 New Investigator Research Grant—\$100,000 over 2 years
How does fornix stimulation affect the activity of the nervous system, especially the hippocampus, and memory?

Khalid Iqbal, Ph.D.
Foundation for Mental Hygiene, Inc.
at NYS Institute for Brain Research
Menands, New York

Shifting balance from neurodegeneration to regeneration

2013 Zenith Fellows Award—\$450,000 over three years
Does peptide treatment improve cognitive function in mice, and does peptide treatment slow or prevent biochemical or structural changes in the brain?

Helmut Kessels, Ph.D.
Netherlands Institute for Neuroscience
Amsterdam, Netherlands

Amyloid beta targets synapses based on AMPA receptor subunit composition

2013 New Investigator Research Grant—\$100,000 over 2 years
How does modifying specific docking sites, AMPA receptors, on brain cells reduce amyloid beta toxicity to special structures needed for memory and learning?

Woo-Yang Kim, Ph.D.
University of Nebraska Medical Center
Omaha, Nebraska

Adult neurogenesis and Alzheimer's disease

2013 New Investigator Research Grant—\$100,000 over 2 years
What is the role of the protein GSK-3 in the process of new nerve cell formation in the brain, and does inhibiting GSK-3 restore the ability of the brain to form new nerve cells?

Eric Klann, Ph.D.
New York University
New York, New York

Targeting AMP-activated protein kinase in Alzheimer's disease

2013 Investigator-Initiated Research Grant—\$239,844 over 3 years
Is the AMPK signaling pathway a potential target for drugs to slow or prevent the progression of brain changes associated with Alzheimer's disease?

Shira Knafo, M.D., Ph.D.
Basque Country University
Leioa, Spain

The Role of PTEN in A β -Induced Synaptic Depression

2013 New Investigator Research Grant—\$100,000 over 2 years

Does toxic beta-amyloid hinder synaptic function in dementia by inducing PTEN-PDZ interactions, and does blocking OTEN-PDZ interactions restore synaptic function and cognitive health?

Paula Moreira, Ph.D.
Center for Neuroscience and Cell Biology
Coimbra, Portugal

Mitochondrial trafficking In Alzheimer disease: Revealing the role of HUMMR

2013 New Investigator Research Grant—\$99,100 over 2 years

Can a novel protein, HUMMR, regulate cognitive decline in Alzheimer's disease?

Stefania Nicoli, Ph.D.
Yale University
New Haven, Connecticut

miR-107 regulation of neurovascular permeability

2013 New Investigator Research Grant—\$100,000 over 2 years

How does loss of miR-170, a microRNA, affect the integrity of the blood-brain barrier and lead to nerve cell damage?

Judy Pa, Ph.D.
University of California, San Francisco
San Francisco, California

Neurobiological changes in network function and amyloid deposition in Alzheimer's disease

2013 New Investigator Research Grant—\$99,978 over 2 years

How do genetic risk factors and amyloid deposits in specific brain regions affect function observed on brain imaging?

Jorge Palop, Ph.D.
David J. Gladstone Institutes
San Francisco, California

Cell-based therapy to restore brain functions in mouse models

2013 Investigator-Initiated Research Grant—\$240,000 over 3 years

Can transplanting young nerve cells from the medial ganglionic eminence into the brains of mice affected by an Alzheimer's-like condition restore normal brain rhythms and brain function?

Sachin Patil, Ph.D.
Widener University
Chester, Pennsylvania

Role of glucose metabolism in apolipoprotein E lipidation and secretion

2013 New Investigator Research Grant—\$93,550 over 2 years

Can drugs that improve glucose metabolism also improve ApoE lipidation and clearance of beta-amyloid from the brain?

Pedro Rosa-Neto, M.D., Ph.D.
Gouglas Hospital Research Centre
Montreal, Quebec, Canada

In vivo quantification of biomarker progression on the APP-RAT model

2013 New Investigator Research Grant—\$99,914 over 2 years

How do biomarkers of Alzheimer's disease (amyloid plaque and brain function measured by PET) change over time in a new animal model?

Robert Siman, Ph.D.
University of Pennsylvania
Philadelphia, Pennsylvania

Functional assessment and treatment of progressive tauopathy

2013 Zenith Fellows Award—\$450,000 over three years

Does drug treatment that stabilizes tau in its normal condition reduce tauopathy and its detrimental effects?

Daniel Southworth, Ph.D.
University of Michigan
Ann Arbor, Michigan

Molecular chaperone quality control mechanisms of tau regulation in Alzheimer's disease

2013 New Investigator Research Grant—\$100,000 over 2 years

What are the precise molecular interactions between tau and its molecular chaperones, and how do these chaperones recognize abnormal tau and direct the cell to dispose of it?

Robert Vassar, Ph.D.
Northwestern University—Chicago Campus
Chicago, Illinois

Identifying novel BACE1 substrates and interacting proteins in the brain

2013 Zenith Fellows Award—\$450,000 over three years

How does normal BACE1 process or interact with proteins, and what are the various roles of BACE1?

David Weinshenker, Ph.D.
Emory University
Atlanta, Georgia

Does Alzheimer's disease pathogenesis begin in the locus coeruleus?

2013 Investigator-Initiated Research Grant—\$240,000 over 3 years

Is abnormal tau produced in the locus coeruleus able to spread to other parts of the brain and cause detrimental changes?

Mark Wu, M.D., Ph.D.
Johns Hopkins University
Baltimore, Maryland

Mechanisms underlying sleep-dependent modulation of A β

2013 New Investigator Research Grant—\$100,000 over 2 years

What are the biological mechanisms underlying the relationship between beta-amyloid and poor sleep, and does increasing or decreasing sleep have an effect on the controlled elimination of unwanted substances in the brain (autophagy)?

Huaxi Xu, Ph.D.

Sanford-Burnham Medical Research Institute

La Jolla, California

Roles of miR-155/C/EBP β /SNX27 pathway in Alzheimer's disease/Down syndrome

2013 Down Syndrome/Alzheimer's Disease Investigator-Initiated Grant—\$300,000 over 3 years

How do molecules and proteins associated with Down syndrome also promote Alzheimer's-like changes in the brain?

Hailan Yao, Ph.D.

Roskamp Foundation IRRV Trust

Sarasota, Florida

Novel mechanisms of BACE1 in Alzheimer's disease vascular pathogenesis

2013 New Investigator Research Grant—\$100,000 over 2 years

Do elevated activity levels of caspase and BACE1 initiate the blood vessel wall damage that leads to cerebral amyloid angiography (CAA) and cognitive decline?

Epidemiology (Dementia Risk Factors and Prevention)

Minerva Carrasquillo, Ph.D.

Mayo Clinic

Jacksonville, Florida

Alzheimer's risk prediction, cognitive decline and gene regulation at the TREM2 locus

2013 Mentored New Investigator Research Grant to Promote Diversity—\$150,000 over 3 years

How do harmful TREM genes promote Alzheimer's-like abnormalities in the brain, and are TREM genes associated with the development of mild cognitive impairment?

Sara Gregory, Ph.D.

Hartford Hospital

Hartford, Connecticut

Exercise training and the hippocampus in subjects with dementia risk

2013 New Investigator Research Grant—\$99,697 over 2 years

What are the effects of an exercise training program on the hippocampus and brain function in people who have at least one parent diagnosed with Alzheimer's disease?

Ines Moreno-Gonzalez, Ph.D.

University of Texas

Houston, TX

Induction of Alzheimer's disease pathology by animal consumption

2013 New Investigator Research Grant—\$100,000 over two years

Does consumption of amyloid plaques by mouth or injection into the brain induce Alzheimer's-like characteristics?

Lon White, M.P.H., M.D.

Pacific Health Research and Education Institute

Honolulu, Hawaii

Honolulu-Asia aging study clinical-neuropathologic analyses

2013 Zenith Fellows Award—\$449,999 over three years

Which risk factors during life were associated with various types of brain abnormalities?

Diagnosis, Assessment and Disease Monitoring

Beau Ances, M.D., Ph.D., M.Sc.

Washington University

St. Louis, Missouri

Resting state network signature of Alzheimer's disease

2013 New Investigator Research Grant—\$95,991 over 2 years

Using magnetic resonance imaging (MRI), how do functional brain networks change in people at high risk for Alzheimer's disease?

Brianne Magouirk Bettcher, Ph.D.

University of California, San Francisco

San Francisco, California

Pro-inflammatory genetic polymorphisms and cognition in amnesic MCI

2013 New Investigator Research Grant—\$100,000 over 2 years

In people with a high risk for Alzheimer's disease, how does a person's genetic profile affect brain function and is this change reflected in blood-based biomarkers of inflammation?

Ramon Casanova, Ph.D.

Wake Forest University

Winston-Salem, North Carolina

New methods for early detection of Alzheimer's disease

2013 New Investigator Research Grant—\$99,309 over 2 years

Does the development of a software tool that can integrate a large amount of data from multiple diagnostic tests provide a more powerful predictor of who is at risk for Alzheimer's and those early in the disease process?

Hayk Davtyan, Ph.D.

Institute for Molecular Medicine

Huntington Beach, California

Detection of B cells producing antibodies: a novel blood-test for Alzheimer's disease

2013 New Investigator Research Grant—\$99,998 over 2 years

Can blood cells be used to determine the development of an Alzheimer's disease marker, beta-amyloid?

Michelle Fodero-Tavoletti, Ph.D.

Mental Health Research Institute

Melbourne, Australia

Characterization of tau imaging ligands for Alzheimer's disease and other dementias

2013 New Investigator Research Grant—\$99,309 over 2 years

Can tau imaging identify precise differences in how and where tau accumulates among various forms of dementia including Alzheimer's disease, chronic traumatic encephalopathy (CTE) and Parkinson's disease?

Katherine Gifford, Psy.D.

Vanderbilt University

Nashville, Tennessee

Cognitive complaints in community dwelling adults

2013 New Investigator Research Grant—\$100,000 over 2 years

Through the examination of cognitive complaints, can a cost-effective and broad based questionnaire be developed to identify early stages of dementia?

Christa Hestekin, Ph.D.
University of Arkansas
Fayetteville, AR

Microchip electrophoresis for amyloid oligomer detection

2013 New Investigator Research Grant—\$97,823 over 2 years

Can microchip electrophoresis help to identify as-yet unknown oligomers, some of which may account for much of the toxicity of beta-amyloid?

Jin Hyung Lee, Ph.D.
Stanford University
Menlo Park, CA

Direct network visualization of Alzheimer's drug efficacy using optogenetic functional MRI (ofMRI)

2013 New Investigator Research Grant—\$100,000 over 2 years

Can a newly developed imaging technique, optogenetic functional MRI, rapidly determine how drugs in an Alzheimer's mouse model change brain circuits affected by this disease?

Carrie McDonald, Ph.D.
University of California—San Diego
La Jolla, California

Statistically determined MCI subtypes: Genetics, biomarkers and outcomes

2013 New Investigator Research Grant—\$100,000 over 2 years

How do various MCI subtypes manifest themselves, and for each MCI subtype what is the risk of developing dementia over a four to five year period?

Selamawit Negash, Ph.D.
University of Pennsylvania
Philadelphia, PA

Implicit learning paradigms as potential markers of preclinical Alzheimer's disease

2013 New Investigator Research Grant to Promote Diversity—\$100,000 over 2 years

Can measurement of implicit learning ability be used to identify people who have early-stage Alzheimer's disease?

Wendy Wei Qiao Qiu, M.D., Ph.D.
Boston University
Boston, Massachusetts

Setting up a challenge diagnostic test for Alzheimer's disease

2013 Investigator-Initiated Research Grant—\$239,490 over 3 years

Does injecting pramlintide into the blood stream lead to an increase in beta-amyloid levels in people who have Alzheimer's disease but not in healthy individuals?

Christopher Rowe, Ph.D.
Austin Health at Austin Life Sciences
Heidelberg, Australia

AIBL III - Data distribution

2013 Investigator-Initiated Research Grant—\$237,600 over 3 years

Are biomarkers able to tell us how the brain changes during aging and Alzheimer's disease?

Mark Tuszynski, M.D., Ph.D.
University of California, San Diego
San Diego, California

MRI guidance for BDNF gene delivery in Alzheimer's disease

2013 Zenith Fellows Award—\$450,000 over three years
Will MRI guidance of BDNF gene delivery improve its effectiveness?

Heather Whitson, M.D., M.H.S.
Duke University
Durham, North Carolina

Novel retinal biomarkers for early detection of Alzheimer's disease

2013 New Investigator Research Grant—\$100,000 over 2 years
Can certain kinds of retinal damage be linked to the transition from normal brain health to dementia?

Donna Wilcock, Ph.D.
University of Kentucky
Lexington, Kentucky

Inflammatory biomarkers to predict transition to dementia in Down syndrome

2013 Down Syndrome/Alzheimer's Disease New Investigator Research Grant—\$149,999 over 2 years
How do changes in serum molecules correlate with changes in the brain structure of a group of people who are at high risk of Alzheimer's disease because of Down syndrome?

Translational Research and Clinical Interventions

Adam Boxer, M.D., Ph.D.
University of California—San Francisco
San Francisco, California

Phase I multiple ascending dose trial of the MT stabilizer TPI-287 for AD

2013 Part the Cloud Translational Research for Alzheimer's Disease—\$600,000 over 2 years
How does the loss of the proteins clusterin or lipocalin-2 affect the development of disease, including the development of amyloid plaques, as well as learning and memory?

Dale Bredesen, M.D.
Buck Institute
Novato, California

An exploratory safety, PK/PD, and preliminary efficacy study of F03 in MCI

2013 Part the Cloud Translational Research Bridge for Alzheimer's Disease Grant —\$200,000 over 2 years
How is the drug F03 absorbed and processed by the body, and what effects does it have on the brain and other body systems in persons with mild cognitive impairment?

Fernando Goni, Ph.D.
New York University
New York, New York

Conformational directed immunotherapy targeting both tau and A β pathology

2013 Investigator-Initiated Research Grant—\$233,960 over 3 years
Will a new type of vaccine component consisting of a monoclonal antibody prevent the development of Alzheimer's-like brain changes, or reduce such changes after they have already formed?

Ann-Charlotte Granholm, Ph.D.
Medical University of South Carolina
Charleston, South Carolina

BDNF and executive dysfunction in Down syndrome

2013 Down Syndrome/Alzheimer's Disease Investigator-Initiated Grant—\$287,482 over 3 years
How do varying activity levels of noradrenergic neurons in mice affect the production of BDNF, and how does noradrenergic cell activity affect executive function related behavior?

Stephen Haggarty, Ph.D.
Massachusetts General Hospital
Boston, Massachusetts

HDAC1 activating compounds as a novel therapeutic for Alzheimer's disease

2013 New Investigator Research Grant—\$99,999 over 2 years
Can a series of drug-like compounds protect nerve cells and prevent nerve cell death by activating HDAC1?

Frank Longo, M.D.
CEO: Anne T. Longo
Pharmatrophix, Inc.
Menlo Park, California

Phase I trial for P75 receptor ligand

2013 Part the Cloud Translational Research for Alzheimer's Disease
What is a safe dose of the drug LM11A-31-BHS in humans, and how does the human body dispose of the drug?

Liviu Mirica, Ph.D.
Washington University
St. Louis, Missouri

Bifunctional chemical agents as theranostic Tools for Abeta Aggregation

2013 New Investigator Research Grant—\$100,000 over 2 years
Can a novel drug that binds-up toxic metals and proteins simultaneously not only reduce their toxicity, but can it also used as a diagnostic to visualize this process?

Eitan Okun, Ph.D.
Bar-Ilan University
Ramat-Gan, Israel

Developing a DNA vaccine for Alzheimer's disease in Down syndrome patients

2013 DS/AD New Investigator Research Grant—\$150,000 over 2 years
Is it possible to develop a new vaccine with the ability to remove different forms of beta-amyloid, and will the vaccine prevent or reverse impairments in brain function or behavior associated with Alzheimer's disease?

George Perry, Ph.D.
Case Western Reserve University
Cleveland, Ohio

PGC-1alpha as a therapeutic target for Alzheimer disease

2013 Investigator-Initiated Research Grant—\$240,000 over 3 years
Do drugs that stimulate PGC1-alpha activity restore mitochondrial that generate energy and brain function?

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

Improving B2 adrenergic signaling in Alzheimer's disease

2013 Part the Cloud Translational Research Bridge for Alzheimer's Disease Grant —\$200,000 over 2 years
How does the drug formoterol affect brain function of individual's with moderate Alzheimer's disease?

Andrew Teich, M.D., Ph.D.
Columbia University
New York, New York

A therapeutic approach to synaptic dysfunction in Alzheimer's disease

2013 New Investigator Research Grant—\$100,000 over 2 years
What are the effects of treatment using a protein called ZCCHC17 in mice with Alzheimer's-like synaptic changes and memory loss, and does this treatment partially restore synaptic health and cognitive abilities?

Keith Vossel, M.D.
University of California—San Francisco
San Francisco, California

Phase 2a levetiracetam trial for Alzheimer's-associated network hyperexcitability

2013 Part the Cloud Translational Research Bridge for Alzheimer's Disease Grant —\$200,000 over 2 years
How does levetiracetam (an anti-epilepsy drug) affect brain function in individuals with early-onset Alzheimer's disease and mild brain seizures?

Eneida Mioshi, Ph.D., M.Sc.
Neuroscience Research Australia
Randwick, NSW, Australia

Enhancing activity participation in frontotemporal dementia

2013 New Investigator Research Grant—\$97,992 over 2 years
What is the effectiveness of a customized activity program intended to improve behavioral symptoms in people with frontotemporal dementia?

Care and Support of Alzheimer's Disease

Dolores Gallagher-Thompson, Ph.D.
Stanford University
Palo Alto, California

Global caregiving: iSupport for dementia family caregivers

2013 Everyday Technologies for Alzheimer's Care—\$199,992 over 2 years
How does a new interactive web-based caregiver support tool (iSupport) compare to more traditional caregiver education materials, and does it reduce caregiver stress?

Georges Karam, M.D.
Institute for Development, Research, Advocacy and Applied Care
Beirut, Lebanon

Setting up the infrastructure for early diagnosis of dementia in Lebanon

2013 New Investigator Research Grant—\$73,884 over 2 years
Several tests that evaluate activities of daily living and dementia severity will be translated into Arabic, but can they be validated in another language to improve the timeliness and accuracy of Alzheimer's disease diagnosis?

Emily Rogalski, Ph.D.
Northwestern University
Chicago, Illinois

Internet-based speech therapy: Improving quality of life and access to care

2013 Everyday Technologies for Alzheimer's Care—\$200,000 over 2 years

What is the feasibility of using web-based speech and language therapy tool among individuals with aphasia due to dementia?