

## 2012 Alzheimer's Association Grants Portfolio

—Organized by categories in research

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### Biology of Disease-Related Molecules

#### Production and clearance of beta-amyloid

**Susanne Frykman, Ph.D.**

Karolinska Institutet  
Stockholm, Sweden

***Synaptic Production of Beta-Amyloid Peptide and Targeted Inhibition Thereof***

New Investigator Research Grant—\$99,000 over two years  
Can certain toxins inhibit beta-amyloid production in synaptic vesicles, and what other mechanisms are responsible for synaptic damage in Alzheimer's disease?

**Andreas M. Grabrucker, Ph.D.**

University Hospital Ulm  
Ulm, Germany

***Investigating the Physiological Role of Zinc Binding to Beta-Amyloid***

New Investigator Research Grant—\$100,000 over two years  
How does zinc/APP binding affect APP function in laboratory cells and in mice genetically engineered to develop Alzheimer's-like symptoms?

**Claudio A. Hetz, Ph.D.**

Institute of Biomedical Sciences, University of Chile  
Santiago, Chile

***Protective Role of the Transcription Factor XBP1 in Alzheimer's Disease***

New Investigator Research Grant—\$100,000 over two years  
What mechanisms underlie XBP1's ability to regulate beta-amyloid production and alleviate memory loss?

**Yueming Li, Ph.D.**

Sloan-Kettering Institute for Cancer Research  
New York, New York

***The Mechanisms of Action of Gamma-Secretase Modulators***

Investigator-Initiated Research Grant—\$240,000 over three years  
How can combinations of gamma-secretase modulators alter the production of different forms of beta-amyloid?

**Giovanni Meli, Ph.D.**

European Brain Research Institute  
Rome, Italy

***Targeting Subcellular Beta-Amyloid Oligomers in Human Alzheimer's Primary Cells***

New Investigator Research Grant—\$100,000 over two years  
How does antibody treatment prevent oligomer formation in subcellular regions?

**Kulandaivelu S. Vetrivel, Ph.D.**

The University of Chicago  
Chicago, Illinois

***Proteomic Analysis of Gamma-Secretase Residing in Raft Domains***

New Investigator Research Grant—\$100,000 over two years  
How does gamma-secretase function when attached to lipid rafts, and what other proteins work with gamma-secretase when it is in this position?

#### Beta-amyloid toxicity

**Dara Dickstein, Ph.D.**

Mount Sinai School of Medicine  
New York, New York

***Assessing the Effect of Oligomeric Abeta on Neuronal and Synaptic Integrity***

New Investigator Research Grant—\$99,979 over two years  
How does beta-amyloid in the different animal models cause synaptic damage and brain cell death?

**Lan Guo, Ph.D.**

University of Kansas Center for Research  
Lawrence, Kansas

***CypD and Abeta-Impaired Axonal Mitochondrial Motility and Docking***

New Investigator Research Grant—\$100,000 over two years  
How do cypD and beta-amyloid hinder mitochondrial movement and synaptic function?

**Muralidhar L. Hegde, Ph.D.**

The University of Texas Medical Branch at Galveston  
Galveston, Texas

***Oxidized Amyloid Proteins Induce Genome Damage in Alzheimer's Disease***

New Investigator Research Grant—\$100,000 over two years  
Where do beta-amyloid, tau and alpha-synuclein bind to brain cell DNA, and what DNA damage is caused by such binding?

#### Tau and neurofibrillary tangles

**Jose F. Abisambra, Ph.D.**

University of South Florida  
Tampa, Florida

***Mechanisms of Tau and ER Stress for Novel Alzheimer's Disease Therapeutics***

New Investigator Research Grant to Promote Diversity—\$100,000 over two years  
How does tau activate the stress response of the endoplasmic reticulum?

**Lars M. Ittner, M.D.**

The University of Sydney  
Sydney, Australia

***The Role of Tau in Excitotoxicity in Alzheimer's Disease***

New Investigator Research Grant—\$99,400 over two years  
How does tau-induced pathology occur in the brain, and what are the mechanisms that underlie the process?

**Gloria Lee, Ph.D.**

University of Iowa  
Iowa City, Iowa

***Fyn in Tau-Induced Neurodegeneration***

Investigator-Initiated Research Grant—\$239,250 over three years

How does the enzyme Fyn contribute to the formation of neurofibrillary tangles?

**Miranda N. Reed, Ph.D.**

West Virginia University  
Morgantown, West Virginia

***Effects of Risk Factors on Tau-Mediated Memory Deficits***

New Investigator Research Grant—\$97,493 over two years  
What are the effects of diabetes on tau phosphorylation?

**Other disease-related molecules and pathways**

**Jungsu Kim, Ph.D.**

Washington University in St. Louis  
St. Louis, Missouri

***Regulation of LDLR as Alzheimer's Disease Therapeutics***

New Investigator Research Grant—\$100,000 over two years  
Does modifying the activity of proteins that reduce levels of low-density lipoprotein receptors affect apolipoprotein and beta-amyloid levels in mice with Alzheimer's-like brain changes?

**Masashi Kitazawa, Ph.D.**

University of California, Merced  
Merced, California

***Neuroinflammation-Induced Alterations of GLT-1 and Synaptotoxicity in Alzheimer's Disease***

New Investigator Research Grant—\$100,000 over two years  
What mechanisms underlie the role of beta-amyloid and interleukin-1 in repressing the activity of the protein glutamate transporter-1?

**Thomas Kukar, Ph.D.,**

Emory University  
Atlanta, Georgia

***The Role of Progranulin in Alzheimer's Disease***

New Investigator Research Grant—\$100,000 over two years  
How might progranulin activity become altered in old age or disease?

**Michael McMurray, Ph.D.**

University of Colorado  
Denver, Colorado

***Mechanisms of Misfolding and Aggregation of Septin Proteins in Alzheimer's***

New Investigator Research Grant to Promote Diversity—\$99,998 over two years  
How is proper folding of septins maintained, and what mechanisms are responsible for misfolding and aggregation?  
2012 Research Grants Portfolio – Organized by research category

**Kalipada Pahan, Ph.D.**

Rush University Medical Center  
Chicago, Illinois

***Induction of BDNF and NT-3 by Cinnamon Metabolite Sodium Benzoate***

Investigator-Initiated Research Grant—\$239,910 over three years

How does sodium benzoate increase levels of BDNF and NT-3 in the brain?

**Junichi Shioi, Ph.D.**

Mount Sinai School of Medicine  
New York, New York

***Effect of EphB2/CTF2 Peptide on NMDAR Phosphorylation and Signaling***

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

How is the cellular signaling pathway involving gamma-secretase affected by genetic mutations of the gamma-secretase gene?

**Disruption of brain cell functions/properties**

**Stephen D. Ginsberg, Ph.D.**

Nathan S. Kline Institute for Psychiatric Research  
Orangeburg, New York

***Effect of Caloric Restriction on Septohippocampal Neurons in Alzheimer's Disease***

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

How does a restricted-calorie diet affect the activity of genes involved in the biochemical pathways of Alzheimer's-related degeneration?

**Daniel Llano, M.D., Ph.D.**

University of Illinois, Urbana-Champaign  
Urbana, Illinois

***Diminished Cortical GABAergic Inhibition in a Mouse Model of Alzheimer's Disease***

New Investigator Research Grant—\$100,000 over two years  
How do animals' corticocortical system and thalamocortical system become "desensitized" to the protective effects of GABA?

**Cristina Marchetti, Ph.D.**

European Brain Research Institute  
Rome, Italy

***Learning From Epilepsy to Understand Alzheimer's Disease***

New Investigator Research Grant—\$100,000 over two years  
How do changes in neuronal channel activity in the hippocampus lead to excitotoxicity, brain seizures and cognitive loss?

**Qitao Ran, Ph.D.**

University of Texas Health Science Center at San Antonio  
San Antonio, Texas

***Glutaredoxin 2, Mitochondrial Protein Glutathionylation and Alzheimer's Disease***

Investigator-Initiated Research Grant—\$239,862 over three years

Do high glutaredoxin 2 levels prevent nerve cell damage caused by Alzheimer's genes, and can drugs to activate glutaredoxin 2 be viable treatments to prevent or slow the progression of Alzheimer's disease?

**Kaori Takehara-Nishiuchi, Ph.D.**

University of Toronto  
Toronto, Ontario, Canada

***Physiological Basis of Memory Impairments in Rat Model of Early-Stage Alzheimer's Disease***

New Investigator Research Grant—\$100,000 over two years  
How does the progression of degeneration affect the oscillatory activity associated with memory formation?

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**Dementia Risk Factors and Prevention****Owen T. Carmichael, Ph.D.**

University of California, Davis  
Davis, California

***Imaging Biomarkers of Preclinical Cerebrovascular Disease***

New Investigator Research Grant—\$100,000 over two years  
Are tiny hemorrhages, reduced brain blood flow, stroke-related lesions and narrowing of carotid arteries that lead to the brain potential biomarkers of preclinical CVD?

**Gemma Casadesus Smith, Ph.D.**

Case Western Reserve University  
Cleveland, Ohio

***Modulation of Metabolic Processes to Prevent Alzheimer's Disease***

Investigator-Initiated Research Grant—\$239,996 over three years

Do combination treatments of leptin plus amylin improve cognitive function more than either hormone acting alone?

**Angela Kamer, Ph.D.**

New York University  
New York, New York

***Infection/Inflammation and Cognitive Decline***

New Investigator Research Grant—\$100,000 over two years  
Does periodontal inflammation exacerbate cognitive and neurological changes linked with dementia?

**Jennifer Weuve, Sc.D.**

Rush University Medical Center  
Chicago, Illinois

***The Red Cell Distribution Width, a Potential Marker of Dementia Risk***

New Investigator Research Grant—\$99,831 over two years  
Is increased RDW related to cognitive decline, risk of dementia and changes in brain structure?

**Zhongcong Xie, M.D., Ph.D.**

Massachusetts General Hospital  
Charlestown, Massachusetts

***Development of Safer Anesthesia for People with Alzheimer's Disease***

Investigator-Initiated Research Grant—\$240,000 over three years  
How do isoflurane and desflurane affect amyloid plaque formation, brain structure and learning and memory?

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**Diagnosis and Detection of Alzheimer's Disease****Biomarkers****Rebecca Amariglio, Ph.D.**

Brigham & Women's Hospital  
Boston, Massachusetts

***Subjective Cognitive Complaints: An Early Indicator of Alzheimer's Disease***

New Investigator Research Grant—\$96,565 over two years  
What is the role of subjective cognitive complaints (SCCs) in Alzheimer's risk?

**Jed Meltzer, Ph.D.**

Rotman Research Institute of Baycrest  
Toronto, Canada

***Detection of Early Cortical Pathology Using MEG and Speech Analysis***

New Investigator Research Grant—\$97,090 over two years  
What are the speech patterns of people with Alzheimer's disease and mild cognitive impairment (MCI) and conditions that precede clinical dementia?

**Rhonda K. Roby, Ph.D., M.P.H.**

University of North Texas Health Science Center  
Fort Worth, Texas

***A Longitudinal Study of the Changes in mtDNA of People With Alzheimer's Disease***

New Investigator Research Grant—\$100,000 over two years  
Do people with Alzheimer's disease have a higher than normal rate of mitochondrial DNA accumulation in their peripheral blood?

**Nicholas Seyfried, Ph.D.**

Emory University  
Atlanta, Georgia

***Early Changes in the Brain Proteome and Alzheimer's Disease Risk***

New Investigator Research Grant—\$100,000 over two years  
What human synaptic proteins may be linked to early Alzheimer's?

**David A. Wolk, M.D.**

University of Pennsylvania  
Philadelphia, Pennsylvania

***Exploration of Memory Change in Preclinical Alzheimer's Disease***

New Investigator Research Grant—\$99,840 over two years  
Which cognitive tests and biochemical markers are the most simple, reliable and inexpensive for detecting early signs of the Alzheimer's disease process?

## Imaging

### **Gil Rabinovici, M.D.**

University of California, San Francisco  
San Francisco, California

#### ***Imaging and CSF Biomarkers in the Diagnosis of Early-Onset Dementia***

Investigator-Initiated Research Grant—\$200,000 over three years

Can the use of CSF biomarkers and PET brain imaging distinguish between early-onset Alzheimer's disease and frontotemporal dementia?

## Technology

### **Serguei Pakhomov, Ph.D.**

Regents of the University of Minnesota—Twin Cities  
Minneapolis, Minnesota

#### ***Automated Semantic Indices for Early Detection of Cognitive Changes***

Development of New Cognitive Functional Instrumentation in Alzheimer's Disease—\$400,000 over two years

Can automatic speech recognition and computational linguistic technologies be reliable in detecting subtle early cognitive changes associated with risk of progressing to Alzheimer's disease?

### **Steve R. Rapp, Ph.D.**

Wake Forest University Health Sciences  
Winston-Salem, North Carolina

#### ***Validation of a Simulation-Based Assessment of Cognitive Functioning***

Development of New Cognitive Functional Instrumentation in Alzheimer's Disease—\$362,821 over three years

Can SIMBAC assess sensitivity to change, affirm its reliability and document its acceptability to older users?

## Clinical tests

### **Maritza Dowling, Ph.D.**

University of Wisconsin-Madison  
Madison, Wisconsin

#### ***Evaluating the Structural Equivalence of Dementia Screening Tests***

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

Can the MoCA test detect people who have reduced brain function and distinguish them from healthy people?

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## Clinical and Pre-Clinical Drug Development and Clinical Interventions

## Drug therapies/treatments

### **Michael G. Agadjanyan, Ph.D., D.Sc.**

Institute for Molecular Medicine  
Huntington Beach, California

#### ***Immune Mechanisms Involved in Responses to Multi-epitope Alzheimer's Disease Vaccine***

Investigator-Initiated Research Grant—\$239,503 over three years

Can the immune system generate antibodies against beta-amyloid that are more powerful and specific than those generated by conventional vaccines?

### **Mathew M. Blurton-Jones, Ph.D.**

University of California, Irvine  
Irvine, California

#### ***Testing the Therapeutic Efficacy of Neprilysin-Expressing Neural Stem Cells***

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

How can neural stem cells be more effective at battling Alzheimer's pathologies?

### **Boris Decourt, Ph.D.**

Banner Sun Health Research Institute  
Sun City, Arizona

#### ***Preclinical Testing of Lenalidomide as Anti-Amyloid Treatment for Alzheimer's Disease***

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

Does lenalidomide have the ability to reduce TNG-alpha and beta-amyloid levels in Alzheimer's-like mice?

### **Francisco J. Gil-Bea, Ph.D.**

Foundation for Applied Medical Research  
Pamplona, Spain

#### ***Pharmacological Manipulation of BDNF as Therapeutic Challenge for Alzheimer's Disease***

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

What mechanisms may increase BDNF levels in cells and living animals?

### **Bing Gong, M.D., Ph. D.**

Mount Sinai School of Medicine  
New York, New York

#### ***hFbx2/APP, a Novel Transgenic Mouse Model in the Study of BACE1 Degradation***

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

Does the destruction of BACE1 reduce amyloid plaque formation in the brain?

### **Joshua Grill, Ph.D.**

University of California, Los Angeles  
Los Angeles, California

#### ***Barriers to Enrollment in Preclinical Alzheimer's Disease Clinical Trials***

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

What are the barriers to Alzheimer's clinical trial recruitment?

**Henrieta Scholtzova, M.D., Ph.D.**

New York University School of Medicine  
New York, New York

***Innate Immunity Stimulation as a Novel Therapeutic Approach in Alzheimer's Disease***

Investigator-Initiated Research Grant—\$240,000 over three years  
Can stimulation of the immune system reduce these signs of disease and reduce the accumulation of amyloid plaque in brain blood vessels?

**David R. Schubert, Ph.D.**

The Salk Institute for Biological Studies  
La Jolla, California

***The role of the unfolded protein response in preventing amyloid toxicity***

Investigator-Initiated Research Grant—\$240,000 over three years  
Is CNB-100 a potential drug candidate for Alzheimer's disease?

**Vitaly Vasilevko, Ph.D.**

University of California, Irvine  
Irvine, California

***Pyroglutamate Modified Abeta Species in Alzheimer's Disease: Target for Immunotherapy***

New Investigator Research Grant—\$100,000 over two years  
Can a vaccine direct the immune system to recognize and remove pyroglutamate-modified beta-amyloid from the brain?

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**Social/Behavioral and Cognitive/Functional****Marie Boltz, Ph.D.**

New York University  
New York, New York

***A Family-Nurse Partnership for Care of Hospitalized Persons With Dementia***

New Investigator Research Grant—\$99,979 over two years  
How can the hospital environment be safer for people with dementia and more conducive to physical and mental activity?

**Gongping Liu, Ph.D.**

Huazhong University of Science and Technology  
Wuhan, China

***Spatial Learning on Neurogenesis and Behavior in Alzheimer's-Like Models***

New Investigator Research Grant—\$100,000 over two years  
What are the benefits of neuronal growth in rats injected with beta-amyloid?

**Chris Nugent, Ph.D.**

University of Ulster  
Newtownabbey, United Kingdom

***TAUT: Technology Adoption and Prediction Tool for Everyday Technologies***

Everyday Technologies for Alzheimer's Care—\$199,790 over three years  
What are factors and predictors for successful technology uptake in patients suffering from memory impairment?

**Dallas P. Seitz, M.D.**

Queen's University at Kingston  
Kingston, Ontario, Canada

***A Volunteer-Led Intervention to Reduce Behavioral Symptoms of Dementia***

New Investigator Research Grant—\$100,000 over two years  
What are the benefits of tailored therapy treatments based on each participant's needs and interests?

**Maggie Syme, Ph.D.**

San Diego State University Research Foundation  
San Diego, California

***Examining Sexual Consent Capacity in Cognitively Compromised Older Adults***

New Investigator Research Grant—\$99,998 over two years  
How do different institutions perceive the issue of sexual consent and sexual activity among people with dementia?

**Eric Wan, Ph.D.**

Portland State University  
Portland, Oregon

***A Passive Tag-Free Approach to Localization and Activity Monitoring***

Everyday Technologies for Alzheimer's Care—\$199,469 over 2 years  
What are the benefits of a passive tag-free tracking system that uses radio frequency (RF) signals?

**Jennifer L. Whitwell, Ph.D.**

Mayo Clinic  
Rochester, Minnesota

***Amyloid-Related Imaging Abnormalities (Microbleeds) in Atypical Alzheimer's Disease***

New Investigator Research Grant—\$100,000 over two years  
Are microbleeds associated with levels of cognitive decline, amounts of amyloid plaque or other structural changes in the brain?

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**Pathology and Genetics of Alzheimer's Disease****Production and clearance of beta-amyloid****Guojun Bu, Ph.D.**

Mayo Clinic Jacksonville  
Jacksonville, Florida

***LRP1 and HSPG in Cerebrovascular Clearance of ABeta***

Investigator-Initiated Research Grant—\$240,000 over three years  
How do changes in LRP1 and HSPG levels affect the clearance of beta-amyloid in animal models?

**Abhinav Diwan, M.D.**

Washington University in St. Louis  
Saint Louis, Missouri

***Enhancing Lysosome Biogenesis to Prevent Amyloid Plaque Pathogenesis***

New Investigator Research Grant—\$100,000 over two years  
What is the role of the transcription factor TFEB in moderating beta-amyloid production?

**Nicholas Fitz, Ph.D.**

University of Pittsburgh  
Pittsburgh, Pennsylvania

***Effect of RXR Agonist on Alzheimer's Phenotype in APP Mice Expressing APOE-e3 and e4***

New Investigator Research Grant—\$100,000 over two years  
How does bexarotene treatment affect brain beta-amyloid levels and cognition?

**Yuri Zilberter, Ph.D.**

Institut de Neurosciences des Systèmes (UMR1106), INSERM  
Marseille, France

***Energy Substrates as a Tool for Treatment of Hyperexcitability in Alzheimer's Disease***

Neuronal Hyperexcitability in Seizures and Alzheimer's Disease  
Research Grant—\$396,969 over three years  
How are nutrients able to reduce hyperexcitability caused by beta-amyloid, and does this effect involve only nerve cells or are other supporting cells in the brain also required?

**Beta-amyloid toxicity****Silvia Fossati, Ph.D.**

New York University School of Medicine  
New York, New York

***Death Receptors as Mediators of Amyloid-Induced Cerebrovascular Dysfunction***

New Investigator Research Grant—\$100,000 over two years  
How does the interaction of beta-amyloid oligomers and death receptors lead to blood vessel cell apoptosis?

**Michael Gitcho, Ph.D.**

University of Wisconsin-Madison  
Madison, Wisconsin

***Age-Dependent Increases of Phosphorylated TDP-43 in APP Mice***

New Investigator Research Grant—\$100,000 over two years  
What are the effects of amyloid deposition on phosphorylated TDP-43 brain changes in Alzheimer's disease?

**Jeroen J.M. Hoozemans, Ph.D.**

VU University Medical Center Amsterdam  
Amsterdam, Netherlands

***Age-Dependent Toll-Like Receptor Signalling in the Alzheimer's Brain***

New Investigator Research Grant—\$99,857 over two years  
Can the protein called interleukin-1 receptor-associated kinase-4 prevent inflammation without hindering amyloid clearance?

**Shaomin Li, M.D., Ph.D.**

Brigham and Women's Hospital  
Boston, Massachusetts

***Abeta Increases Glutamatergic Excitation and Induces Epileptiform Activity***

New Investigator Research Grant—\$100,000 over two years  
What is the link between excitotoxicity and seizures, and what molecular mechanisms may underlie this association?

**Rodrigo Morales, Ph.D.**

University of Texas Health Science Center  
Houston, Texas

***Transmissibility of Amyloid-Beta Deposition by Blood and Different Routes***

Mentored New Investigator Research Grant to Promote Diversity—\$150,000 over two years  
How does amyloid plaque formation in one region of the blood or brain trigger more extensive plaque formation in the brain?

**Lindsay C. Reese, Ph.D.**

Oregon Health & Science University  
Portland, Oregon

***The Role of Amyloid Deposition in Blood-Brain Barrier Dysfunction in Alzheimer's Disease***

U.S.–U.K. Young Investigator Exchange Fellowship—\$259,998 over three years  
What is the role of impaired blood flow and amyloid deposition in blood-brain-barrier damage?

**Jokubas Ziburkus, Ph.D.**

University of Houston  
Houston, Texas

***Inhibitory Neuron and Circuit Dysfunctions in Alzheimer's Disease Model***

New Investigator Research Grant—\$100,000 over two years  
Are beta-amyloid levels related to neuron function in the hippocampus, and what are the ion channels responsible for defective activity of inhibitory neurons?

**Tau and neurofibrillary tangles****Kim Green, Ph.D.**

University of California, Irvine  
Irvine, California

***Role of Microglia in Alzheimer's and in Abeta and Tau Immunotherapy***

New Investigator Research Grant—\$100,000 over two years  
How are microglia involved in the development of plaques and tangles, and how can they help the immune system combat these protein aggregates?

**Daniel C. Lee, Ph.D.**

University of South Florida  
Tampa, Florida

***Impact of Arginase-1 Deficiency on Tau and Amyloid Pathogenesis***

Mentored New Investigator Research Grant to Promote Diversity—\$149,774 over two years  
What is the role of the glial cell arginase-1 in the formation of amyloid plaques and neurofibrillary tangles?

## Other disease-related molecules and pathways

### David W. Colby, Ph.D.

University of Delaware  
Newark, Delaware

#### *Generation of Diverse Neural Culture Models of Alzheimer's Disease by Cell Reprogramming*

New Investigator Research Grant—\$100,000 over two years  
Which exact set of transcription factors is required to produce basal forebrain cholinergic neuron, and can engineered cells exhibit the abnormalities characteristic of Alzheimer's?

### Andrew Sharp, Ph.D.

Mount Sinai School of Medicine  
New York, New York

#### *DNA Methylation Profiling of Alzheimer's Disease Brains*

New Investigator Research Grant—\$98,670 over two years  
What specific genes and genetic regions are abnormally methylated in Alzheimer's?

## Disruption of brain cell functions/properties

### Robia Pautler, Ph.D.

Baylor College of Medicine  
Houston, Texas

#### *The Impact of Catalase Overexpression on Alzheimer's Pathology*

Investigator-Initiated Research Grant—\$200,000 over three years

Do increased levels of catalase in nerve cells of the brain prevent the development of Alzheimer's-like disease characteristics

### Helen E. Scharfman, Ph.D.

Nathan S. Kline Institute for Psychiatric Research  
Orangeburg, New York

#### *Circuit-Based Strategies in Alzheimer's Disease and Epilepsy*

Neuronal Hyperexcitability in Seizures and Alzheimer's Disease  
Research Grant--\$339,956 over three years

Can anticonvulsant drugs reduce or prevent hyperexcitability that precedes neurodegeneration in the perforant path and hippocampus?

### Neal Sondheimer, M.D., Ph.D.

The Children's Hospital of Philadelphia  
Philadelphia, Pennsylvania

#### *Alzheimer's Disease and the Destabilization of the Mitochondrial Genome*

New Investigator Research Grant—\$99,549 over two years  
Are changes in mitochondrial DNA responsible for initiating Alzheimer's disease?

### Saeid Taheri, Ph.D.

Medical University of South Carolina  
Charleston, South Carolina

#### *Monitoring Effect of Hypertension on the BBB in APP Mice Model of Alzheimer's Disease*

New Investigator Research Grant—\$99,988 over two years  
What are the effects of high blood pressure on the blood brain barrier and how does it affect the development of Alzheimer's-like disease in the brain?

## Synaptic dysfunction

### Mikako Sakurai, Ph.D

Columbia University  
New York, New York

#### *Functional Analysis of Neurons Derived From Alzheimer's Patient iPSCs*

New Investigator Research Grant—\$100,000 over two years  
What role does excitotoxicity play in dementia-related synaptic decline?