Biology of Disease-Related Molecules

1. Processing of amyloid precursor protein (APP)
   - **Carmela R. Abraham, Ph.D.**
     Boston University
     Boston, Massachusetts
     The Significance of APP Dimerization in Alzheimer’s Disease
     Investigator Initiated Research Grant—$240,000 over three years
     What are the normal and disease-related properties of two-unit APP molecules?
   - **David R. Schubert, Ph.D.**
     Salk Institute for Biological Studies
     La Jolla, California
     A Novel Mouse Model for Alzheimer’s Disease
     Investigator-Initiated Research Grant—$240,000 over three years
     What can a new Alzheimer mouse model reveal about the role of a newly identified protein in APP processing?
   - **Scott A. Small, M.D.**
     Columbia University Medical Center
     New York, New York
     Retromer-Mutant Mice as a Model of Late-Onset Alzheimer’s Disease
     Investigator-Initiated Research Grant—$236,772 over three years
     What can a new mouse model reveal about cellular malfunctions that may contribute to increased APP processing?

2. Properties of beta-amyloid and tau
   - **Paul H. Axelsen, M.D.**
     University of Pennsylvania
     Philadelphia, Pennsylvania
     The Structure of Neurotoxic Intermediate Forms of Beta-Amyloid Proteins
     Zenith Fellows Award—$250,000 over two years
     What can structural analysis of small beta-amyloid clusters reveal about how beta-amyloid molecules assemble themselves?
   - **Vincent Cryns, M.D.**
     Northwestern University
     Feinberg School of Medicine
     Chicago, Illinois
     Role of Caspase Cleavage of Tau in Neurodegeneration
     Investigator-Initiated Research Grant—$240,000 over three years
     How does a beta-amyloid-induced molecular event contribute to abnormal tau assembly?
   - **Karen Duff, Ph.D.**
     Nathan S. Kline Institute for Psychiatric Research
     Orangeburg, New York
     p25/cdk5 in Alzheimer’s Disease Pathogenesis
     Zenith Fellows Award—$250,000 over two years
     How do specialized proteins exert influence on an enzyme involved in beta-amyloid production?
   - **Mathias Jucker, Ph.D.**
     Hertie-Institute for Clinical Brain Research
     Tübingen, Germany
     Exogenous Induction of Cerebral Amyloidogenesis
     Zenith Fellows Award—$250,000 over two years
     Does beta-amyloid have properties that perpetuate the production and accumulation of more beta-amyloid?
   - **William L. Klein, Ph.D.**
     Northwestern University
     Evanston, Illinois
     Synaptic Targeting by ADDLs as a Basis for Specific Neurodegeneration in Alzheimer’s Disease
     Investigator-Initiated Research Grant—$240,000 over three years
     What mechanism causes small beta-amyloid clusters to target certain cells in the brain?
   - **Harry LeVine III, Ph.D.**
     University of Kentucky Research Foundation
     Lexington, Kentucky
     Chaperone-Mediated Protein Refolding Dysfunction in Alzheimer’s Disease
     Investigator Initiated Research Grant—$237,057 over three years
     How do certain proteins direct the “folding” and “refolding” of Alzheimer-related proteins?
   - **Stephen C. Meredith, M.D., Ph.D.**
     University of Chicago
     Chicago, Illinois
     Structure of Mutant Beta-Amyloid Fibrils Examined by Solid-State NMR
     Investigator-Initiated Research Grant—$240,000 over three years
     What structural properties of beta-amyloid fibrils lead to differences in beta-amyloid deposition in the brain?
   - **Christopher C. J. Miller, Ph.D.**
     Institute of Psychiatry
     London, England
     The XI1 Alpha Adaptor Protein, Copper Metabolism and Alzheimer’s Disease
     Investigator-Initiated Research Grant—$235,919 over three years
     How does a protein related to copper metabolism affect beta-amyloid production and other pathological processes?
   - **Nikolaos K. Robakis, Ph.D.**
     Mount Sinai School of Medicine
     New York, New York
     Involvement of the Presenilin 1/PI3K/GSK-3 Signaling in Neuronal Apoptosis and Beta-Amyloid
     Investigator-Initiated Research Grant—$240,000 over three years
     How do molecular events related to the presenilin 1 protein contribute to beta-amyloid production and cell death?
   - **Sangram S. Sisodia, Ph.D.**
     University of Chicago
     Chicago, Illinois
     Purification and Structural Analysis of the Presenilin-1/ Gamma-Secretase Complex
     Investigator-Initiated Research Grant—$239,868 over three years
     What can a novel experimental system reveal about the structural properties of gamma-secretase?
   - **Riqiang Yan, Ph.D.**
     Cleveland Clinic Foundation
     Cleveland, Ohio
     Reticulon Proteins in the Formation of Neuritic Plaques
     Investigator Initiated Research Grant—$240,000 over three years
     How does the assembly of a particular protein into larger structures affect the production of beta-amyloid?
• Chunjiang Yu, Ph.D.
University of Illinois
Chicago, Illinois
*ApoE Isoform Effect on Intraneuronal Abeta Accumulation*
New Investigator Research Grant—$100,000 over two years
By what mechanism does apolipoprotein E-4 contribute to the assembly of beta-amyloid structures inside neurons?

• Neal J. Zondlo, Ph.D.
University of Delaware
Newark, Delaware
*Conformational Targeting of Tau and Secretase*
New Investigator Research Grant—$100,000 over two years
What structural properties of abnormal tau and beta-amyloid–related molecules enable them to self-assemble?

3. Normal functions of disease-related molecules

• Ilya B. Bezprozvanny, Ph.D.
University of Texas Southwestern Medical Center
Dallas, Texas
*Presenilins and Calcium Signaling: Implications for Alzheimer's Disease*
Investigator-Initiated Research Grant—$240,000 over three years
Do genetic mutations associated with inherited Alzheimer’s disrupt transport and storage of calcium in nerve cells?

• Rashid Deane, Ph.D.
University of Rochester
Rochester, New York
*Regulation of Amyloid-Beta Brain Efflux by Copper*
Investigator-Initiated Research Grant—$199,990 over two years
How does copper affect the mechanisms by which beta-amyloid is cleared from the brain?

• Angele Parent, Ph.D.
University of Chicago
Chicago, Illinois
*Role of Cell Adhesion Molecules in Presenilin Animal Models*
Investigator Initiated Research Grant—$240,000 over three years
What role does presenilin play in mediating proteins involved in cell-to-cell communication?

• Sophie Restituito, Ph.D.
New York University
New York, New York
*Synaptic Functions of Gamma-Secretase*
New Investigator Research Grant—$99,998 over two years
How does gamma-secretase affect the properties and function of synapses?

• Alice M. Wyrwicz, Ph.D.
Evanston Northwestern Healthcare Research Institute
Evanston, Illinois
*Effect of ApoE Isoform on Hippocampal Microstructure and Function*
Investigator Initiated Research Grant—$240,000 over three years
How do the different forms of apolipoprotein E affect the structure and function of a region of the brain important for learning and memory?

• Hui Zheng, Ph.D.
Baylor College of Medicine
Houston, Texas
*Regulation of the High-Affinity Choline Transporter by APP*
Investigator-Initiated Research Grant—$240,000 over three years
How does APP regulate the placement of proteins involved in cell-to-cell communication in the brain?

**Disease Mechanisms**

1. Beta-amyloid and neurodegeneration

• James E. Hall, Ph.D.
University of California
Irvine, California
*A Proposed Mechanism for Amyloid Toxicity*
Investigator Initiated Research Grant—$225,934 over three years
What impact does amyloid toxicity have on cell membrane stability and function?

• Rakez Kayed, Ph.D.
University of California
Irvine, California
*AMYLOIDS AS TOXINS: PROBING COMMON STRUCTURAL AND FUNCTIONAL PROPERTIES*
New Investigator Research Grant—$100,000 over two years
Do pore-like beta-amyloid structures have a toxic effect on neurons?

• James Lee, Ph.D.
University of Missouri
Columbia, Missouri
*Effects of Beta-Amyloid Peptide on Adhesion Mechanics of Cerebral Endothelium*
New Investigator Research Grant—$100,000 over two years
What effect does beta-amyloid have on mechanisms that protect blood vessels in the brain?

• Jordi Magrane, Ph.D.
Weill Medical College of Cornell University
New York, New York
*Synaptic Damage from Intraneuronal Abeta Accumulation*
New Investigator Research Grant—$99,990 over two years
What can a new experimental system reveal about how beta-amyloid affects the function or maintenance of neurons?

• Dale E. Bredesen, M.D.
Buck Institute for Age Research
Navato, California
*A Role for the Intracytoplasmic Cleavage of APP in Alzheimer's Disease*
Investigator-Initiated Research Grant—$239,978 over three years
What role does a recently identified molecule play in mediating beta-amyloid toxicity or inhibiting protective factors in neurons?

• Robert J. Vassar, Ph.D.
Northwestern University
Feinberg School of Medicine
Chicago, Illinois
*The Role of Intraneuronal Abeta in Alzheimer's Disease Pathophysiology*
Investigator-Initiated Research Grant—$239,995 over three years
What role do beta-amyloid assemblies inside neurons play in Alzheimer’s disease pathology?
2. Tau, neurofibrillary tangles and neurodegeneration

- Peter W. Baas, Ph.D.
  Drexel University
  Philadelphia, Pennsylvania
  Abnormal Microtubule Severing in Alzheimer’s Disease
  Investigator-Initiated Research Grant—$240,000 over three years
  How do changes in tau properties contribute to disease-related damage to cells?

- Jada Lewis, Ph.D.
  Mayo Clinic
  Jacksonville, Florida
  Neuronal Death and Functional Recovery in a Conditional Model of Tauopathy
  Investigator-Initiated Research Grant—$239,902 over three years
  How do neurofibrillary tangles contribute to cell death, and can cells recover from such damage?

3. Immune response, inflammation and oxidative stress

- Katrin Andreasson, M.D.
  Stanford University
  Stanford, California
  Function of PGE2, Receptors in the Development of Alzheimer’s Disease
  Investigator-Initiated Research Grant—$240,000 over three years
  How does an inflammation-related protein mediate inflammatory activity and beta-amyloid accumulation in Alzheimer’s disease?

- Suman Jayadev, M.D.
  University of Washington
  Seattle, Washington
  Presenilins and Microglia in Alzheimer’s Disease
  New Investigator Research Grant—$100,000 over two years
  How do presenilins interact with immune-system cells in the brain that facilitate inflammation?

- Michael R. Nichols, Ph.D.
  University of Missouri
  St. Louis, Missouri
  Amyloid-Beta Fibrils: A Trigger for the Innate Immune Response
  New Investigator Research Grant—$100,000 over two years
  Do certain beta-amyloid structures initiate harmful immune-system responses?

- Lawrence M. Sayre, Ph.D.
  Case Western Reserve University
  Cleveland, Ohio
  Lipid Oxidation in Alzheimer’s Disease: Mechanisms of Toxicity and Potential Intervention
  Investigator Initiated Research Grant—$239,973 over three years
  What byproducts of oxidative stress are responsible for damage in Alzheimer’s disease?

4. Other disease mechanisms

- A. Claudio Cuello, D.Sc.
  McGill University
  Montreal, Québec, Canada
  Altered Nerve Growth Factor Maturation and Degradation in Alzheimer’s Disease
  Investigator-Initiated Research Grant—$237,916 over three years
  How do alterations in neuroprotective proteins contribute to neuron damage and loss in Alzheimer’s disease?

- Gerald A. Diener, Ph.D.
  University of Arkansas for Medical Sciences
  Little Rock, Arkansas
  Astrocytic Metabolite Trafficking and Brain Imaging in Alzheimer Mouse Model
  Investigator-Initiated Research Grant—$239,875 over three years
  How are energy production processes in the brain altered in Alzheimer’s disease?

- Karl Herrup, Ph.D.
  University Hospitals of Cleveland
  Cleveland, Ohio
  Alzheimer’s Neuropathology Seen Through the Lens of Cell Cycle Processes
  Zenith Fellows Award—$250,000 over two years
  What cellular events provoke abnormal cell division and subsequent cell death in Alzheimer’s disease?

- Raymond J. Kelleher III, M.D., Ph.D.
  Massachusetts General Hospital
  Boston, Massachusetts
  A Knock-In Mouse Model of Presenilin-Linked Frontotemporal Dementia
  Investigator-Initiated Research Grant—$240,000 over three years
  What does a mouse model of frontotemporal dementia reveal about the role of aberrant presenilin proteins on cell loss and memory function?

- David J. Libon, Ph.D.
  University of Medicine and Dentistry of New Jersey School of Osteopathic Medicine
  Stratford, New Jersey
  The Effect of Leukoaraiosis in Alzheimer’s Disease
  Investigator-Initiated Research Grant—$194,292 over two years
  How do abnormal areas of white matter correspond with specific functional deficits of people with Alzheimer’s disease?

- Kenneth Mackie, M.D.
  Indiana University
  Indianapolis, Indiana
  Endocannabinoid Control of Neurotransmitter Release in Alzheimer’s Disease
  Investigator-Initiated Research Grant—$239,548 over three years
  How does Alzheimer’s disease affect the function and distribution of a certain protein involved in cell-to-cell communication?

- Murali Prakriya, Ph.D.
  Northwestern University
  Chicago, Illinois
  Aberrant Calcium Signaling Mechanisms in Alzheimer’s Disease
  New Investigator Research Grant—$100,000 over two years
  How do Alzheimer-related gene mutations affect the calcium balance in neurons?
Protective Mechanisms in the Brain

- Bing Gong, M.D.
  Columbia University Medical Center
  New York, New York
  **Role of Ubiquitin-C-Terminal Hydrolase L1 in Alzheimer’s Disease**
  New Investigator Research Grant—$100,000 over two years
  What is the potential benefit of a protein involved in the clearance of beta-amyloid from the brain?

- Jeff Keller, Ph.D.
  University of Kentucky Research Foundation
  Lexington, Kentucky
  **HDAC Inhibitors and Protein Synthesis in Experimental Models of Alzheimer’s Disease**
  Investigator-Initiated Research Grant—$239,910 over three years
  Do certain enzymes boost production of proteins that ameliorate the toxic effect of beta-amyloid?

- Francesca Fang Liao, Ph.D.
  Burnham Institute for Medical Research
  La Jolla, California
  **sAPP and p25/CDK5 in Neurogenesis and Neuronal Death**
  Investigator-Initiated Research Grant—$240,000 over three years
  How does a certain form of APP suppress the formation of neurofibrillary tangles?

- Richard T. Robertson, Ph.D.
  University of California
  Irvine, California
  **Neurotrophin-3: Maintenance of Cholinergic Circuitry**
  Investigator Initiated Research Grant—$240,000 over three years
  What effect does a potentially protective brain protein have on cells normally damaged in Alzheimer’s disease?

- Dominique Toran-Allerand, M.D.
  Columbia University Medical Center
  New York, New York
  **Estrogen and Neurogenesis in Aging and Alzheimer’s Disease**
  Investigator Initiated Research Grant—$240,000 over three years
  Does a certain form of estrogen promote new neuron growth in the brains of older mice or mice with an Alzheimer-like disorder?

- William Van Nostrand, Ph.D.
  Research Foundation of SUNY
  State University of New York
  Stony Brook, New York
  **Inhibition of A-Beta Fibrillogenesis by Myelin Basic Protein**
  Investigator-Initiated Research Grant—$219,000 over three years
  Can a certain brain protein prevent the assembly of beta-amyloid structures?

- Douglas G. Walker, Ph.D.
  Sun Health Research Institute
  Sun City, Arizona
  **CD20 as a Therapeutic Target for Alzheimer’s Disease**
  Investigator-Initiated Research Grant—$239,079 over three years
  Can a naturally occurring anti-inflammatory agent in the brain be enhanced to inhibit inflammation in Alzheimer-like mice?

- Guo Wei, M.D. Ph.D.
  Johns Hopkins University
  Baltimore, Maryland
  **Role of Prostaglandin Receptor EP2 in Alzheimer’s Disease**
  New Investigator Research Grant—$100,000 over two years
  How might a specific protein protect neurons from stroke and Alzheimer pathology?

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Risk factors

1. Genetic risk factors

- Jonathan L. Haines, Ph.D.
  Vanderbilt University Medical Center
  Nashville, Tennessee
  **Identifying the Chromosome 10 Risk Gene for Alzheimer’s Disease**
  Investigator Initiated Research Grant—$239,886 over three years
  Can a gene or genes associated with Alzheimer’s disease risk be identified on chromosome 10?

- Jean-Charles Lambert, Ph.D.
  Institute Pasteur de Lille
  Lille, France
  **Enzymes of the Urea Cycle as Candidate Genes for Alzheimer’s Disease**
  Investigator-Initiated Research Grant—$239,961 over three years
  Does a form of a gene associated with waste detoxification in the body affect the risk of Alzheimer’s disease?

2. Lifestyle factors and modifiable risk factors

- Michal Schaedner-Beerli, Ph.D.
  Mount Sinai School of Medicine
  New York, New York
  **Effects of Glycoxidation on Cognition**
  New Investigator Research Grant—$100,000 over two years
  Are factors related to diabetes associated with the development of Alzheimer’s disease or age-related declines in memory function?

- Monique Breteler, M.D., Ph.D.
  Erasmus University Medical Center
  Rotterdam, Netherlands
  **Metabolic Syndrome, Insulin Metabolism and the Risk of Alzheimer’s Disease**
  Investigator Initiated Research Grant—$240,000 over three years
  What biological factors explain the association between diabetes and the risk of Alzheimer’s disease?

- Ramon Diaz-Arrastia, M.D., Ph.D.
  University of Texas
  Southwestern Medical School
  Dallas, Texas
  **Elevated Homocysteine as a Risk Factor for Progression from MCI to Alzheimer’s Disease**
  Zenith Fellows Award—$250,000 over two years
  Do elevated levels of homocysteine in the blood increase the risk of mild cognitive impairment progressing to Alzheimer’s disease?

- Spiridon Papapetropoulos, M.D., Ph.D.
  University of Miami
  Miami, Florida
  **Cyanobacterial Toxin (BMAA) in Brain Tissue and Hair of Alzheimer’s Disease Patients**
  New Investigator Research Grant—$60,000 over one year
  Can a certain amino acid derived from some diets be detected in Alzheimer’s brains, and is it a risk factor for developing Alzheimer’s?
Drug Development and Treatments

1. Anti-amyloid therapies

- **Antonio Cattaneo, Ph.D.**
  European Brain Research Institute
  Rome, Italy
  
  **Recombinant Antibodies Against Beta-Amyloid Oligomers: In Vivo Targeting and Delivery**
  Investigator-Initiated Research Grant—$240,000 over three years
  Can specialized antibodies that target small beta-amyloid clusters effectively treat Alzheimer-like mice?

- **Matthew P. DeLisa, B.S.**
  Cornell University
  Ithaca, New York
  
  **Natural Product-Like Compounds That Inhibit Intracellular Abeta Aggregation**
  New Investigator Research Grant—$100,000 over two years
  Can compounds derived from naturally occurring chemicals inhibit the formation of beta-amyloid–based structures?

- **Joanna L. Jankowsky, Ph.D.**
  California Institute of Technology
  Pasadena, California
  
  **Combination Therapy for the Treatment of Alzheimer’s Disease**
  New Investigator Research Grant—$99,924 over two years
  Can a combination therapy prevent the formation of beta-amyloid and remove amyloid plaques in Alzheimer-like mice?

- **Lee-Way Jin, M.D., Ph.D.**
  University of California at Davis
  Sacramento, California
  
  **The Use of Novel Amyloid Binding Ligands for Anti-Amyloid Therapies**
  Investigator-Initiated Research Grant—$240,000 over three years
  Do molecules that bind to beta-amyloid have a therapeutic effect in Alzheimer-like mice?

- **Hong-Duck Kim, Ph.D.**
  University of Illinois at Chicago
  Peoria, Illinois
  
  **A-Beta Vaccines Using Recombinant Viruses**
  New Investigator Research Grant—$100,000 over two years
  What therapeutic effect does a virus-delivered, anti–beta-amyloid “vaccine” have on Alzheimer-like mice?

- **Daniel A. Kirschner, Ph.D.**
  Boston College
  Chestnut Hill, Massachusetts
  
  **Quantitative Assessment of Potential Amyloid Inhibitors**
  Investigator Initiated Research Grant—$240,000 over three years
  Can specialized assessment tools identify molecules that effectively perturb the assembly of beta-amyloid structures?

- **Susan W. Liebman, Ph.D.**
  University of Illinois
  Chicago, Illinois
  
  **Modeling Alzheimer’s Disease in Yeast**
  Investigator-Initiated Research Grant—$121,556 over three years
  Can molecules that block the aggregation of beta-amyloid be identified using a yeast cell–based screening method?

- **Phillippe Marambaud, Ph.D.**
  Feinstein Institute for Medical Research
  Manhasset, New York
  
  **Anti-Amyloidogenic Properties of Resveratrol and Its Analogues**
  New Investigator Research Grant—$99,419 over two years
  Can a chemical found in red grapes and wine inhibit the assembly of beta-amyloid structures in Alzheimer-like mice?

- **Roger N. Rosenberg, M.D.**
  University of Texas Southwestern Medical Center
  Dallas, Texas
  
  **Gene Vaccination for Therapy and Prevention of Alzheimer’s Disease**
  Investigator-Initiated Research Grant—$240,000 over three years
  Is a vaccine based on the gene that codes production of beta-amyloid safer than the one based on the protein fragment itself?

- **Thomas Wisniewski, M.D.**
  New York University
  New York, New York
  
  **Mucosal Immunization Therapy in Alzheimer’s Disease in Mice**
  Investigator-Initiated Research Grant—$240,000 over three years
  What effect does a newly developed anti–beta-amyloid “vaccine” have on Alzheimer-like mice?

2. Other therapeutic strategies

- **Nelson Arispe, Ph.D.**
  Henry M. Jackson Foundation for the Advancement of Military Medicine
  Bethesda, Maryland
  
  **Blocking the Beta-Amyloid Ion Channels Protects the Cell**
  Zenith Fellows Award—$249,852 over two years
  Can synthetic compounds block beta-amyloid–induced leakage of electrically charged chemicals from neurons in Alzheimer-like mice?

- **Craig S. Atwood, Ph.D.**
  University of Wisconsin
  Madison, Wisconsin
  
  **Leuprolide Acetate in the Treatment of Alzheimer’s Disease**
  Zenith Fellows Award—$250,000 over two years
  By what mechanism might a currently available drug protect cells from Alzheimer pathology?

- **Chad Dickey, Ph.D.**
  Mayo Clinic
  Jacksonville, Florida
  
  **Tau Therapeutic Strategies for Alzheimer’s Disease**
  New Investigator Research Grant—$100,000 over two years
  Can drugs targeting a tau-regulating protein disrupt abnormal changes to tau in Alzheimer-like mice?

- **Gary Landreth, Ph.D.**
  Case Western Reserve University
  Cleveland, Ohio
  
  **Mechanisms of Statin-Mediated Regulation of APP Metabolism**
  Investigator Initiated Research Grant—$240,000 over three years
  How do cholesterol-lowering drugs affect the function of APP in neurons in cell cultures?

- **Cynthia A. Lemere, Ph.D.**
  Brigham and Women’s Hospital
  Boston, Massachusetts
  
  **Protective Effects of Chronic L-NBP Treatment in an Alzheimer’s Disease Mouse Model**
  Investigator Initiated Research Grant—$240,000 over three years
  What is the therapeutic effect of a compound based on the Chinese celery seed in Alzheimer-like mice?
3. Clinical trials

- **Deborah E. Barnes, Ph.D.**
  University of California
  San Francisco, California
  *Computer-Based Training in Older Adults With Memory Complaints*
  Investigator Initiated Research Grant—$240,000 over three years
  Does computer-based training improve cognitive skills in adults with memory impairments?

- **Lon S. Schneider, M.D.**
  University of Southern California
  Los Angeles, California
  *Development of the Cochrane Fully-Coded Trials Register for Dementia*
  Senator Mark Hatfield Award for Clinical Research in Alzheimer’s Disease—$233,649 over three years
  What improvements can be made in the scope and accessibility of a database of clinical trials for dementia treatment and prevention?

### Diagnosis, Assessment and Disease Monitoring

1. Brain imaging and biomarkers

- **Konstantinos Arfanakis, Ph.D.**
  Illinois Institute of Technology
  Chicago, Illinois
  *A Diffusion Tensor MRI Technique for Early Diagnosis of Alzheimer’s Disease*
  New Investigator Research Grant—$99,945 over two years
  Can an imaging technique detect tissue damage resulting from neurofibrillary tangles?

- **Steven M. Greenberg, M.D., Ph.D.**
  Massachusetts General Hospital
  Boston, Massachusetts
  *PET Imaging of Cerebral Amyloid Angiopathy With Pittsburgh Compound B*
  Investigator-Initiated Research Grant—$239,938 over three years
  Can an imaging method be used to assess beta-amyloid deposits in blood vessel walls in the brain?

- **Khalid Iqbal, Ph.D.**
  Research Foundation for Mental Hygiene
  New York State Institute for Basic Research
  New York, New York
  *Biomarkers of Neurofibrillary Pathology*
  Investigator-Initiated Research Grant—$240,000 over three years
  Can measures of tau and beta-amyloid levels in cerebrospinal fluid be used to diagnose Alzheimer’s disease?

- **Lisa Mosconi, Ph.D.**
  New York University School of Medicine
  New York, New York
  *Dynamic Brain Imaging Predicts Cognitive Decline in Normal Aging*
  New Investigator Research Grant—$100,000 over two years
  Can maps of brain deterioration reveal patterns of onset and rate of deterioration associated with Alzheimer’s disease?

- **Gregory V. Simpson, Ph.D.**
  University of California
  San Francisco, California
  *Novel Tools for Assessing Dynamic Brain Networks and Cognition in Dementia*
  Everyday Technologies for Alzheimer Care—$194,568 over two years
  Can new computer software improve analysis of complex brain-function data?

- **Reisa Sperling, M.D.**
  Brigham and Women’s Hospital
  Boston, Massachusetts
  *Impact of Amyloid Burden on Memory-Related fMRI Activation*
  Investigator-Initiated Research Grant—$235,129 over three years
  Can amyloid imaging and functional imaging technologies be used to correlate amyloid burden and memory impairment?

- **Jun Zhang, Ph.D.**
  University of Kentucky Research Foundation
  Lexington, Kentucky
  *Diffusion Tensor MRI Analysis for Early Detection of Alzheimer’s Disease*
  New Investigator Research Grant—$100,000 over two years
  Can detection of structural changes in the brain white matter serve as an Alzheimer diagnostic tool?

2. Other diagnostic tools and issues

- **Jose R. Carrion-Baralt, Ph.D.**
  Mount Sinai School of Medicine
  New York, New York
  *Normative Neuropsychological Data in Nondemented Puerto Rican Nonagenarians*
  New Investigator Research Grant—$95,700 over two years
  Can valid baseline scores for Spanish-speaking Puerto Ricans be established for standard neuropsychological tests?

- **David W. Eby, Ph.D.**
  University of Michigan
  Ann Arbor, Michigan
  *Fitness to Drive in Early-Stage Dementia: An Instrumented Vehicle Study*
  Investigator-Initiated Research Grant—$239,811 over three years
  Can an in-vehicle monitoring device help in the assessment of driving abilities of people with dementia?

- **James E. Galvin, M.D.**
  Washington University
  St. Louis, Missouri
  *Factors Predicting Physicians' Intention to Evaluate Patients for Dementia*
  Investigator-Initiated Research Grant—$239,999 over three years
  What factors influence a physician’s choice to evaluate patients for cognitive impairment and dementia?

- **Tod Machover, B.M., M.M.**
  Massachusetts Institute of Technology
  Cambridge, Massachusetts
  *Creative Music Technologies for Alzheimer Assessment and Treatment*
  Everyday Technologies for Alzheimer Care—$199,988 over three years
  Can a musical task assessment tool be used to screen for cognitive impairment in older adults?

- **Albert Rizzo, Ph.D.**
  University of Southern California
  Los Angeles, California
  *Virtual Reality Visuospatial Assessment as a Predictor of Mild Dementia of the Alzheimer’s Type*
  Everyday Technologies for Alzheimer Care—$199,988 over three years
  Can a virtual reality tool be used to assess visuospatial perception in people with mild Alzheimer’s disease?
1. Residential and nursing home care
   • Margaret P. Calkins, Ph.D.
     IDEAS Institute
     Kirtland, Ohio
     Environmental Modifications to Improve Continence in Homes, Assisted-Living Units and Nursing Homes
     Investigator-Initiated Research Grant—$237,491 over three years
     What changes in bathroom design may help people with dementia improve urinary control and toilet use?
   • Mary Lynn Piven, Ph.D.
     University of North Carolina
     Chapel Hill, North Carolina
     Developing a Measure of Emotional Care in Nursing Homes
     New Investigator Research Grant—$99,973 over two years
     Can a valid assessment tool be developed to measure quality of emotional care for people with dementia in nursing homes?
   • Christie L. Teigland, Ph.D.
     Foundation for Long Term Care
     Albany, New York
     New Quality of Life Measures to Improve Dementia Care in Nursing Homes
     Investigator-Initiated Research Grant—$239,644 over three years
     Can quality-of-life measures for people with dementia be successfully implemented into nursing home care?

2. At-home care and caregiver support
   • David Craig, M.D.
     Belfast City Hospital
     Belfast, Northern Ireland
     Cell Phone Video Streaming in Alzheimer’s Disease
     Everyday Technologies for Alzheimer Care—$196,094 over three years
     Can cell phone videostreaming help people with dementia function more independently?
   • Maureen K. O’Connor, Psy.D.
     Boston University
     Bedford, Massachusetts
     Self-Efficacy Enhancement and Caregiver Intervention Effectiveness
     New Investigator Research Grant—$99,955 over two years
     Can interventions for improving self-perceived abilities result in lower caregiver stress?
   • Laura P. Sands, Ph.D.
     Purdue University
     West Lafayette, Indiana
     Evaluating Community-Based, Long-Term Care for Medicaid Patients
     Investigator-Initiated Research Grant—$239,961 over three years
     How does a lack of services and respite care—resulting from Medicaid spending caps—affect overall healthcare utilization?
   • Kathleen Smyth, Ph.D.
     Case Western Reserve University
     Cleveland, Ohio
     Using Personal Computers to Extend Impact of a Caregiving Intervention
     Investigator-Initiated Research Grant—$240,000 over three years
     Can a computer-based intervention sustain or enhance the long-term benefits of a caregiver training program?

3. Other care issues
   • Richard H. Fortinsky, Ph.D.
     University of Connecticut Health Center
     Farmington, Connecticut
     Information- and Help-Seeking Experiences Among Hispanic Family Caregivers
     Investigator-Initiated Research Grant—$239,931 over three years
     How do culture-specific values and beliefs affect help-seeking choices by Hispanic caregivers of people with dementia?
   • J. Neil Henderson, Ph.D.
     University of Oklahoma
     Oklahoma City, Oklahoma
     Dementia Among American Indians: Culture, Caregiving and Services
     Investigator-Initiated Research Grant—$239,995 over three years
     How do culture-specific beliefs and values affect choices of American Indians in caregiving practices and use of community services?
   • Madelyn A. Iris, Ph.D.
     Council for Jewish Elderly
     Chicago, Illinois
     Beliefs About Alzheimer’s Disease, Dementia and Aging: Cultural and Social Factors
     Investigator-Initiated Research Grant—$199,938 over two years
     What cultural and social factors represent barriers to the recognition and treatment of Alzheimer’s disease among Hispanics, African Americans and refugees of the former Soviet Union?
   • Judith J. McCann, D.N.Sc.
     Rush University Medical Center
     Chicago, Illinois
     Why Don’t People With Alzheimer’s Disease Use More Community Services?
     Investigator-Initiated Research Grant—$239,772 over three years
     What factors create barriers to community service use among caregivers of people with Alzheimer’s disease?