Biology of disease-related molecules

1. Production of beta-amyloid
   - Willem G. Annaert, Ph.D.
     Flanders Interuniversity Institute for Biotechnology
     Leuven, Belgium
     Targeting and Localization of Distinct Gamma-Secretase Complexes Versus APP
     Investigator-Initiated Research Grant—$240,000 over three years
     Which variant form of gamma-secretase targets APP?

   - Bing Gong, M.D.
     Mount Sinai School of Medicine
     New York, New York
     Fbx2-Mediated Ubiquitin Pathway: A Novel Route for BACE1 Degradation
     Investigator-Initiated Research Grant—$240,000 over three years
     What mechanism regulates levels of a protein involved in beta-amyloid production?

   - Yong-Keun Jung, Ph.D.
     Seoul National University
     Seoul, South Korea
     Novel Activator Genes of Gamma-Secretase (SecAs) for APP-Favorable Cleavage
     Investigator-Initiated Research Grant—$240,000 over three years
     Do certain proteins activate gamma-secretase to target and process APP?

   - David E. Kang, Ph.D.
     University of California, San Diego
     La Jolla, California
     Targeting the LRP Pathway for Abeta Reduction From Inside and Outside
     Investigator-Initiated Research Grant—$240,000 over three years
     How does APP interaction with another protein promote the production of beta-amyloid?

   - Seong-Hun Kim, M.D., Ph.D.
     University of Florida
     Gainesville, Florida
     Role of Rer1 in the Regulation of Gamma-Secretase Trafficking and Activity
     Investigator-Initiated Research Grant—$240,000 over three years
     How does a certain protein’s regulation of gamma-secretase activity contribute to beta-amyloid production?

   - Yueming Li, Ph.D.
     Sloan-Kettering Institute for Cancer Research
     New York, New York
     Modulation of the Gamma-Secretase Complex and Activity by Individual Subunits
     Investigator-Initiated Research Grant—$240,000 over three years
     How do presenilin proteins work with other enzymes to promote excessive beta-amyloid production?

   - Peter T. Nelson, M.D., Ph.D.
     University of Kentucky Research Foundation
     Lexington, Kentucky
     Mechanism and Therapeutic Significance of an Alzheimer’s Disease-Relevant MicroRNA Pathway
     New Investigator Research Grant—$100,000 over two years
     Does inhibition of a certain brain chemical decrease the expression of a gene encoding a key protein in beta-amyloid production?

   - Masuo Ohno, Ph.D.
     Nathan S. Kline Institute for Psychiatric Research
     Orangeburg, New York
     Testing of Rab5-Overexpressing Mice as a Novel Alzheimer’s Disease Model
     Investigator-Initiated Research Grant—$240,000 over three years
     How might a certain protein contribute to the abnormal trafficking of APP and subsequent beta-amyloid production?

   - Davide Tampellini, Ph.D.
     Joan & Sanford I. Weill Medical College of Cornell University
     New York, New York
     Study of the Relation Between Synaptic Activity and Amyloid-Beta
     New Investigator Research Grant—$99,660 over two years
     How does synaptic activity affect the production and transport of beta-amyloid?

   - Gopal Thinakaran, Ph.D.
     University of Chicago
     Chicago, Illinois
     Altering Microdomain Localization of Gamma-Secretase in Transgenic Mice
     Investigator-Initiated Research Grant—$240,000 over three years
     How do factors controlling the location of gamma-secretase in a cell mediate beta-amyloid production?

   - Kulandaivelu S. Vetrivel, Ph.D.
     University of Chicago
     Chicago, Illinois
     Exploring Beta-Secretase Activity in Lipid Raft Microdomains
     New Investigator Research Grant—$100,000 over two years
     What role do certain proteins play in transporting and locating enzymes involved in beta-amyloid production?

   - Sungok Yoon, Ph.D.
     Ohio State University Research Foundation
     Columbus, Ohio
     The Role of JNK3 in APP Trafficking
     Investigator-Initiated Research Grant—$214,800 over three years
     How does a protein’s trafficking of APP in a cell influence beta-amyloid production?

2. Formation of neurofibrillary tangles
   - Koichi Iijima, Ph.D.
     Thomas Jefferson University
     Philadelphia, Pennsylvania
     Mechanisms of Tau Phosphorylation and Toxicity Induced by Abeta42 In Vivo
     New Investigator Research Grant—$99,999 over two years
     What enzymes mediate beta-amyloid–induced abnormal chemical changes in tau proteins?

   - Fei Liu, Ph.D.
     Research Foundation for Mental Hygiene, Inc. at New York State Institute for Basic Research
     Staten Island, New York
     Involvement of Dyrk1A in ASF-Regulated Alternative Splicing of Tau Exon 10
     New Investigator Research Grant—$100,000 over two years
     How do certain proteins regulate the production of variant tau proteins susceptible to tangle formation?
1. Properties and toxicity of abnormal protein structures

- **Yoshitaka Ishii, Ph.D.**
  University of Illinois - Chicago
  Chicago, Illinois
  **Toxicity and Structure of Aggregated Alzheimer Beta-Amyloid**
  Investigator-Initiated Research Grant—$240,000 over three years
  What are the toxic and structural properties of various beta-amyloid aggregates?

- **Matt Kaeberlein, Ph.D.**
  University of Washington
  Seattle, Washington
  **TOR Signaling in Amyloid Beta Toxicity**
  How does TOR (target of rapamycin) kinase affect amyloid beta toxicity?

- **Bruce T. Lamb, Ph.D.**
  Cleveland Clinic Foundation
  Cleveland, Ohio
  **A Humanized Mouse Model of Alzheimer’s Disease**
  Investigator-Initiated Research Grant—$240,000 over three years
  What can be learned about beta-amyloid-tau interactions in a novel genetic mouse model of Alzheimer’s disease?

2. Mediators of beta-amyloid toxicity

- **Gilles J. Guillemin, Ph.D.**
  University of New South Wales
  Sydney, Australia
  **Identification of a New Neurodegenerative Mechanism in Alzheimer’s Disease**
  Investigator-Initiated Research Grant—$228,453 over three years
  What intermediary role does a certain protein play in beta-amyloid’s toxic effect on cells?

- **Giulio Taglialatela, Ph.D.**
  University of Texas Medical Branch at Galveston
  Galveston, Texas
  **Neurobehavioral Toxicity of Natural Amyloid-Beta Oligomers**
  Investigator-Initiated Research Grant—$240,000 over three years
  How does a certain protein mediate the toxic effect of small beta-amyloid structures?

3. Synaptic dysfunction: Loss of cell-to-cell communication

- **Guojun Bu, Ph.D.**
  Washington University in St. Louis
  St. Louis, Missouri
  **LRP1 and ApoE Isoforms in Brain Lipid Metabolism and Synaptic Functions**
  Zenith Fellows Award—$450,000 over three years
  How do variant forms of an Alzheimer risk gene affect the function of a protein that plays a role in maintaining synapses?
• Gilbert Di Paolo, Ph.D.
  Columbia University Medical Center
  New York, New York
  Genetic Modulation of PIP2 in Alzheimer’s Disease Mouse Models: Effect on Cognitive Decline
  New Investigator Research Grant—$100,000 over two years
  Do beta-amyloid oligomers cause synaptic dysfunction by targeting a certain cell-membrane protein?

• Wen-Biao Gan, Ph.D.
  New York University School of Medicine
  New York, New York
  The Role of Microglia in Amyloid Plaque Clearance and Synaptic Pathology
  Investigator-Initiated Research Grant—$240,000 over three years
  How do supporting brain cells affect synaptic function and dysfunction?

• Nashaat Gerges, Ph.D.
  Medical College of Wisconsin
  Milwaukee, Wisconsin
  Role of Neurogranin in Alzheimer’s Disease
  New Investigator Research Grant—$100,000 over two years
  How does beta-amyloid alter the properties and function of a protein essential for cell-to-cell communication?

• Kwang Mook Jung, Ph.D.
  University of California, Irvine
  Irvine, California
  Deficits in Anandamide Signaling Underlie Cognitive Dysfunction in Alzheimer’s Disease
  Investigator-Initiated Research Grant—$239,714 over three years
  Do beta-amyloid-induced alterations of a protective brain chemical result in synaptic dysfunction?

• Peter Penzes, Ph.D.
  Northwestern University
  Chicago, Illinois
  Modeling Synapse Dysgenesis-linked Memory Impairment in Alzheimer’s Disease
  Investigator-Initiated Research Grant—$239,764 over three years
  How might structural changes in neurons account for the link between synaptic dysfunction and memory impairment in Alzheimer’s disease?

• Subhojit Roy, Ph.D.
  University of California, San Diego
  San Diego, California
  Mechanisms of Axonal Transport Dysfunction in Alzheimer’s Disease
  New Investigator Research Grant—$100,000 over two years
  How might amyloid-induced damage to a cell’s nutrient-transport network disrupt synaptic function?

4. Mitochondrial dysfunction: Impairment in cells’ energy-producing structures

• Anand Hindupur, Ph.D.
  University of Pennsylvania
  Philadelphia, Pennsylvania
  Mechanisms Underlying the Biogenesis of Mitochondrial Abeta
  Investigator-Initiated Research Grant—$240,000 over three years
  How does beta-amyloid affect a brain cell’s energy-producing structures?

• Qingli Shi, Ph.D.
  Winifred Masterson Burke Medical Research Institute
  White Plains, New York
  Oxidative Stress/Gene Regulation of Mitochondrial Enzymes Implicated in Alzheimer’s Disease
  New Investigator Research Grant—$100,000 over two years
  How might toxic oxygen molecules disrupt the function of proteins in a neuron’s energy-producing structures?

• Shi Du Yan, M.D.
  Columbia University
  New York, New York
  Cyclophilin D as a Mitochondrial Target of Alzheimer’s Disease
  Investigator-Initiated Research Grant—$240,000 over three years
  How might a certain protein contribute to energy-producing dysfunction in neurons in Alzheimer’s disease?

5. Function and dysfunction of neuroprotective factors

• Jason Eriksen, Ph.D.
  University of Houston
  Houston, Texas
  Role of PGRN in Microglial Activity in Alzheimer’s Disease
  New Investigator Research Grant—$99,970 over two years
  What mediating role might a certain protein play between toxic Alzheimer agents and dysfunctional “janitorial” processes in neurons?

• Stanislav L. Karsten, Ph.D.
  Los Angeles Biomedical Research Institute at Harbor – UCLA Medical Center
  Torrance, California
  Neuroprotective Role of Puromycin-Sensitive Aminopeptidase (PSA)
  New Investigator Research Grant—$100,000 over two years
  What role does a certain protein play in the removal of excess or abnormal tau from neurons?

• David M. Lin, Ph.D.
  Cornell University
  Ithaca, New York
  A Novel Mouse Model of Neurodegeneration
  Investigator-Initiated Research Grant—$240,000 over three years
  How might the disruption of helper cells in the brain contribute to the degeneration of neurons?

• Helene Marie, Ph.D.
  European Brain Research Institute
  Rome, Italy
  Does NGF Deprivation Lead to Glutamatergic/GABAergic Network Imbalance?
  New Investigator Research Grant—$98,450 over two years
  How might a decline in a neuroprotective protein lead to a chemical imbalance in neurons in Alzheimer’s disease?

• Robert A. Marr, Ph.D.
  Rosalind Franklin University of Medicine and Science
  North Chicago, Illinois
  Investigation of the Role of MMEL in Protection From Alzheimer’s Disease
  New Investigator Research Grant—$239,999 over two years
  What is the role of a beta-amyloid-degrading enzyme in protecting brain cells?
6. Disruption of other brain cell functions and properties

- **William Mohley, M.D., Ph.D.**
  Stanford University
  Stanford, California
  *Degeneration of Hippocampal Circuits in Down Syndrome: a Role for APP?*
  Investigator-Initiated Research Grant—$239,901 over three years
  Does APP disrupt a neuron’s ability to use protective proteins?

- **Nicholas W. Seeds, Ph.D.**
  University of Colorado Denver, Anschutz Medical Campus
  Aurora, Colorado
  *Plasminogen Activator and Its Inhibitors in Alzheimer’s Disease*
  Investigator-Initiated Research Grant—$200,000 over three years
  What factors inhibit normal beta-amyloid-degrading functions in the brain?

- **Dengshun Wang, M.D., Ph.D.**
  University of Wisconsin–Madison
  Madison, Wisconsin
  *Identifying Pathophysiologically Relevant Amyloid-Beta-Degrading Enzyme in Alzheimer’s Disease*
  Investigator-Initiated Research Grant—$240,000 over three years
  Does impairment of beta-amyloid-degrading enzymes contribute to the accumulation of beta-amyloid in Alzheimer’s disease?

- **Ronald Wetzel, Ph.D.**
  University of Pittsburgh
  Pittsburgh, Pennsylvania
  *The Role of Amyloid-Beta Aggregate Polymorphism in Alzheimer’s Disease*
  Investigator-Initiated Research Grant—$240,000 over three years
  How might amyloid plaque function to sequester toxic amyloid in the brain?

- **Dun-Sheng Yang, Ph.D.**
  Nathan S. Kline Institute for Psychiatric Research
  Orangeburg, New York
  *Rescue Autophagic-Lysosomal Protein Degradation to Reverse Amyloid Pathology*
  Investigator-Initiated Research Grant—$239,968 over three years
  Does repair of a neuron’s internal “waste management” system reverse beta-amyloid–induced cell damage?

- **Ryohei Yasuda, Ph.D.**
  Duke University Medical Center
  Durham, North Carolina
  *Amyloid-Beta Induced Rho GTPase Signaling in Dendritic Spines*
  New Investigator Research Grant—$100,000 over two years
  How does beta-amyloid affect enzymes responsible for maintaining a neuron’s dendrites, or long branching arms?

7. Inflammation

- **Sergey Kalinin, M.D.**
  University of Illinois at Chicago
  Chicago, Illinois
  *Locus Coeruleus Damage During Normal Aging and in Transgenic Models of Alzheimer’s Disease*
  New Investigator Research Grant—$99,999 over two years
  Does reduction of an immune-system protein increase the risk of Alzheimer-related inflammation and disease progression?

- **Lib-Fen Lue, Ph.D.**
  Loyola University of Chicago
  Maywood, Illinois
  *Loss of CSF2 and NFT Formation: Conversion of Mild Cognitive Impairment to Alzheimer’s Disease*
  Investigator-Initiated Research Grant—$239,323 over three years
  Does the loss of brainstem cells critical for suppressing inflammation contribute to the progression of Alzheimer’s disease?

- **Susanna Rosi, Ph.D.**
  University of California, San Francisco
  San Francisco, California
  *Altered Neuronal-Microglia Communication Impacts Neuronal Function*
  New Investigator Research Grant—$100,000 over two years
  By what mechanisms might inflammation disrupt neuron function and cell-to-cell communication?

- **Volney Sheen, M.D., Ph.D.**
  Beth Israel Deaconess Medical Center
  Boston, Massachusetts
  *In Vitro Modeling of Neuronal-Glial Interactions in Alzheimer’s Disease*
  New Investigator Research Grant—$99,990 over two years
  By what mechanism does an inflammation-related protein contribute to cell dysfunction or death?
8. Cardiovascular factors in Alzheimer’s disease

- **Aad Van Der Lugt, Ph.D.**
  Boston University
  Boston, Massachusetts
  *Left Ventricular Function and Mild Cognitive Impairment*
  Investigator-Initiated Research Grant—$240,000 over three years
  Does dysfunction of the heart’s main pumping chamber contribute to deficits in brain function?

- **James McCallum Noble, M.D.**
  Columbia University Medical Center
  New York, New York
  *Arteriosclerosis and Alzheimer’s in a Multiethnic Group of Autopsy Brains*
  New Investigator Research Grant—$95,501 over two years
  What is the relationship between the severity of hardened arteries and severity of dementia?

- **Henry Rusinek, Ph.D.**
  New York University School of Medicine
  New York, New York
  *Hippocampal Blood Flow and Vascular Reactivity in Normal Aging and Alzheimer’s Disease*
  Investigator-Initiated Research Grant—$239,941 over three years
  Can abnormal blood flow in a memory-related region of the brain predict neurodegeneration in that region?

- **Aad Van Der Lugt, Ph.D.**
  Erasmus Medical College
  Rotterdam, Netherlands
  *Arterial Calcifications and Risk of Dementia*
  New Investigator Research Grant—$100,000 over two years
  What contribution does blood vessel damage make to cognitive decline and neurodegenerative diseases?

9. Other factors in Alzheimer pathology

- **Adriana Ferreira, Ph.D.**
  Northwestern University
  Chicago, Illinois
  *Cholesterol and the Susceptibility of Aging Neurons to AβToxicity*
  Investigator-Initiated Research Grant—$240,000 over three years
  Do levels of cholesterol in neurons increase as neurons age and in turn cause increased cleavage of the protein tau, neuronal degeneration and cell death?

- **Lawrence S. Honig, M.D., Ph.D.**
  Columbia University Medical Center
  New York, New York
  *Changes in Telomere Length and the Risk of Alzheimer’s Disease*
  Investigator-Initiated Research Grant—$240,000 over three years
  Does the shortening of end regions of chromosomes contribute to the onset and progression of Alzheimer’s disease?

- **Yoshihiro Konishi, M.D., Ph.D.**
  National Hospital Organization Tottori Medical Center
  Tottori, Japan
  *Comparison of Beta-Secretase Between Alzheimer Brain in the United States and Japan*
  New Investigator Research Grant—$96,000 over two years
  How might beta-amyloid pathology differ between populations with significantly different diet and lifestyle practices?

- **Mary Jo LaDu, Ph.D.**
  University of Illinois – Chicago
  Chicago, Illinois
  *The Effect of ApoE Isoform on Intraneuronal ApoE/Aβ42 Interactions*
  Zenith Fellows Award—$450,000 over three years
  What is the effect of variant forms of an Alzheimer risk gene on its protein products’ interactions with beta-amyloid?

- **Terri Monk, M.D.**
  Duke University Medical Center
  Durham, North Carolina
  *Does Inhalational Anesthesia Accelerate Postoperative Cognitive Decline?*
  Investigator-Initiated Research Grant—$240,000 over three years
  Do certain forms of general anesthesia contribute to cognitive decline after surgery?

- **Ken A. Paller, Ph.D.**
  Northwestern University
  Evanston, Illinois
  *Memory Processing During Sleep in Alzheimer’s Disease*
  Investigator-Initiated Research Grant—$240,000 over three years
  Do people with Alzheimer’s disease experience disruption of memory processing during sleep?

- **Sanjay W. Pimplikar, Ph.D.**
  Cleveland Clinic Foundation
  Cleveland, Ohio
  *The Role of APP Intracellular Domain in Neuronal Excitotoxicity*
  Investigator-Initiated Research Grant—$240,000 over three years
  How does a portion of APP contribute to an overstimulation of neurons linked to neuron damage and death?

- **Rebecca J. Rylett, Ph.D.**
  University of Western Ontario
  London, Ontario, Canada
  *Modulation of Neuronal Gene Expression by Choline Acetyltransferase*
  Investigator-Initiated Research Grant—$240,000 over three years
  What role does an enzyme play in gene expression patterns that may make certain cells vulnerable in Alzheimer’s disease?

- **John Seibyl, M.D.**
  Institute for Neurodegenerative Disorders
  New Haven, Connecticut
  *Imaging Noradrenergic Function in Alzheimer’s Disease*
  Investigator-Initiated Research Grant—$236,544 over three years
  How does Alzheimer’s disease affect specialized cells in the brainstem over time?

**Dementia risk factors**

- **Jeffery B. Allen, Ph.D.**
  Wright State University
  Dayton, Ohio
  *Impact of Quality of Education on Cognitive Status of African-American Elders*
  Investigator-Initiated Research Grant—$185,526 over three years
  What impact does education quality and literacy have on the cognitive and adaptive functioning of older African-Americans?
• Natalia A. Crivello, Ph.D.
  Tufts University
  Boston, Massachusetts
  Folate Deficiency, Brain Lipids and Amyloid Toxicity in APP/PS1 Mice
  New Investigator Research Grant—$98,997 over two years
  What influence does folate deficiency have on levels of an essential brain chemical and amyloid toxicity in Alzheimer-like mice?

• Mathieu Lesort, Ph.D.
  University of Alabama at Birmingham
  Birmingham, Alabama
  Pathological Interactions in Diabetes and Alzheimer’s Disease
  Investigator-Initiated Research Grant—$200,000 over three years
  Does diabetes-induced chemical changes to tau predispose the brain to Alzheimer pathology?

• Brenda L. Plassman, Ph.D.
  Duke University Medical Center
  Durham, North Carolina
  Middle- and Late-Life Predictors of Alzheimer’s Disease in Elderly Twins
  Investigator-Initiated Research Grant—$198,363 over three years
  Can cardiovascular risk factors of Alzheimer’s disease be better characterized by comparing outcomes among twins?

• Dorene M. Rentz, Psy.D.
  Brigham and Women’s Hospital, Inc.
  Boston, Massachusetts
  Amyloid Deposition in Normal Controls: Impact of Cognitive Reserve
  Investigator-Initiated Research Grant—$239,569 over three years
  Does a presumed cognitive reserve provide a protective effect in people with imaging-detected beta-amyloid deposits?

• Nicole Schupf, Ph.D.
  Columbia University Medical Center
  New York, New York
  Genetics of Estrogen and Alzheimer’s Disease in a Multiethnic Cohort
  Investigator-Initiated Research Grant—$239,999 over three years
  Do variant forms of genes related to estrogen production increase the risk of Alzheimer’s disease?

• Kristine Yaffe, M.D.
  University of California, San Francisco
  San Francisco, California
  Predictors of Mild Cognitive Impairment/Dementia Among the Oldest Old Women
  Investigator-Initiated Research Grant—$240,000 over three years
  What factors increase the risk of dementia in women in their 80s and 90s?

• Andras L. Palotas, M.D., Ph.D.
  Asklepios-Med Bt.
  Szeged, Hungary
  Early Diagnosis Using Fibroblasts and Lymphocytes in Alzheimer’s Disease
  New Investigator Research Grant—$97,912 over two years
  Can variant genes associated with white blood cells or connective tissue cells indicate a risk or the onset of Alzheimer’s disease?

• Calin I. Prodan, M.D.
  University of Oklahoma Health Science Center
  Oklahoma City, Oklahoma
  Coated Platelets: A Potential Biomarker for Alzheimer’s Disease
  New Investigator Research Grant—$99,968 over two years
  Can a certain subset of blood platelets serve as a marker of Alzheimer’s disease onset and progression?

• Chengjie Xiong, Ph.D.
  Washington University in St. Louis
  St. Louis, Missouri
  The Earliest Antecedent Markers of Alzheimer’s Disease
  New Investigator Research Grant—$99,956 over two years
  Can a combination of disease markers be identified that provide a clinically useful measure of Alzheimer’s disease risk or onset?

2. Brain imaging

• Mark Bondi, Ph.D.
  University of California, San Diego
  San Diego, California
  Functional Neuroanatomy of Memory in Elders: a Combined FMRI and DTI Study
  Investigator-Initiated Research Grant—$239,988 over three years
  Can functional magnetic resonance imaging and diffusion tensor imaging identify patterns of brain changes in people at high risk for Alzheimer’s?

• Jason E. Gestwicki, Ph.D.
  University of Michigan
  Ann Arbor, Michigan
  Chemical Probes for Selective Recognition of Amyloid Oligomers
  Investigator-Initiated Research Grant—$99,813 over two years
  Can an imaging agent selectively identify only small aggregates of beta-amyloid in the brain?

• William Jagust, M.D.
  University of California, Berkeley
  Berkeley, California
  The Detection of Alzheimer’s Disease in Normal Older People
  Zenith Fellows Award—$449,999 over three years
  Can a combination of imaging studies identify healthy older adults in nonsymptomatic early stages of Alzheimer’s disease?

• Ricardo Maccioni, Ph.D.
  International Center for Biomedicine
  Santiago, Chile
  In Search of Tau-Binding Molecules With Potential Clinical Applications
  Investigator-Initiated Research Grant—$238,800 over three years
  Can a tau-binding agent be identified that could be used in imaging studies to measure tau pathology?
2008 Research Grants Portfolio—Organized by trends in research

- Pedro Rosa-Neto, M.D., Ph.D.
  McGill University
  Montreal, Canada
  Glutamatergic Abnormalities in Patients With Early Alzheimer’s Disease
  New Investigator Research Grant—$98,000 over two years
  Can increased levels of a cell-surface protein associated with Alzheimer’s disease be detected with brain imaging?

- Youssef Zaim Wadghiri, Ph.D.
  New York University School of Medicine
  New York, New York
  Susceptibility-Based MRI Detection of Alzheimer’s Amyloid
  Investigator-Initiated Research Grant—$240,000 over three years
  Can a chemical probe used with magnetic resonance imaging enable researchers to measure levels of beta-amyloid in the brains of Alzheimer-like mice?

3. Other diagnostic studies

- Vladimir Hachinski, Ph.D.
  Lawson Health Research Institute
  London, Canada
  Risk Score Development to Predict Alzheimer’s Disease and Dementia
  Investigator-Initiated Research Grant—$238,770 over three years
  Can a risk assessment tool identify people at increased risk of developing Alzheimer’s disease?

- Hochang Lee, M.D.
  Johns Hopkins University School of Medicine
  Baltimore, Maryland
  Assessment of Burden of Dementia Among Korean Elders in Maryland
  Investigator-Initiated Research Grant—$240,000 over three years
  Can a Korean-language assessment tool improve the diagnosis of dementia in Korean-Americans?

- Michael D. Lee, Ph.D.
  University of California, Irvine
  Irvine, California
  Bayesian Methods for the Detection, Diagnosis and Treatment of Alzheimer’s
  New Investigator Research Grant—$87,726 over two years
  What imaging, clinical and cognitive tests most accurately diagnose Alzheimer’s disease and measure its severity?

- Adriana Macias Strutt, Ph.D.
  Baylor College of Medicine
  Houston, Texas
  Validation of a Spanish Neuropsychological Dementia Battery
  New Investigator Research Grant—$99,715 over two years
  Can a comprehensive test for dementia be validated for Spanish-speaking individuals in the United States?

Drug development and clinical interventions

1. Anti-amyloid therapies

- Yona Levites, Ph.D.
  Mayo Clinic
  Jacksonville, Florida
  Single Chain Fragments as a Tool to Target Generic Amyloid
  New Investigator Research Grant—$100,000 over two years
  Can an anti-amyloid antibody be designed that specifically targets small, toxic beta-amyloid aggregates in Alzheimer-like mice?

- Philip Williams, Ph.D.
  University of Hawaii
  Honolulu, Hawaii
  Medicines From Marine Sources
  New Investigator Research Grant—$99,977 over two years
  Can chemicals isolated from sponges and marine bacteria inhibit a key protein in beta-amyloid production?

- Muralikrishnan Dhanasekaran, Ph.D.
  Auburn University
  Auburn, Alabama
  Novel Neuroprotective Effects of Centella asiatica
  New Investigator Research Grant—$99,990 over two years
  By what mechanism does an Asian medicinal plant decrease beta-amyloid levels in Alzheimer-like mice?

- Valentina Echeverria Moran, Ph.D.
  Bay Pines Foundation, Inc.
  Bay Pines, Florida
  Molecular Mechanisms Underlying the Neuroprotective Actions of Cotinine
  New Investigator Research Grant—$100,000 over two years
  Can a chemical derived from nicotine prevent the formation of toxic beta-amyloid structures in Alzheimer-like mice?

- Douglas L. Feinstein, Ph.D.
  University of Illinois – Chicago
  Chicago, Illinois
  Anti-amyloidogenic Effects of Noradrenaline
  Investigator-Initiated Research Grant—$239,999 over three years
  Does a drug that boosts levels of certain brainstem cells have an anti-amyloid effect and other therapeutic effects on Alzheimer-like mice?

- Veronica Galvan, Ph.D.
  University of Texas Health Sciences Center
  San Antonio, Texas
  Small-Molecule Inhibitors of Asp664 Cleavage of APP
  New Investigator Research Grant—$148,660 over two years
  Can a molecule be identified that inhibits a particular protein-protein interaction that helps initiate beta-amyloid production?

- Bonnie Goodwin, Ph.D.
  University of South Florida
  Tampa, Florida
  Gamma-Secretase Inhibitors Induce Cell Cycle Defects and Chromosome Aneuploidy
  New Investigator Research Grant—$100,000 over two years
  What is the effect of gamma-secretase inhibition on normal cellular functions?

- Michael Hecht, Ph.D.
  Princeton University
  Princeton, New Jersey
  Discovery of Compounds that Prevent A-Beta Toxicity
  Investigator-Initiated Research Grant—$239,993 over three years
  Can a compound be identified that blocks the aggregation of beta-amyloid in cultured cells and in a roundworm model of beta-amyloid aggregation?

- Ashok N. Hegde, Ph.D.
  Wake Forest University
  Winston-Salem, North Carolina
  Ameliorating Harmful Abeta Effects on Synaptic Plasticity and Memory
  Investigator-Initiated Research Grant—$240,000 over three years
  Can an experimental drug inhibit the action of beta-amyloid on synaptic function?
• Louis B. Hersh, Ph.D.
  University of Kentucky
  Lexington, Kentucky

  A Modified Neprilysin for Gene Therapy
  Investigator-Initiated Research Grant—$238,936 over three years
  Does an engineered version of a beta-amyloid-degrading brain enzyme have a disease-modifying effect in Alzheimer-like mice?

• Daniel Paris, Ph.D.
  Roskamp Institute
  Sarasota, Florida

  Effect of Celastrol in a Transgenic Mouse Model of Alzheimer’s Disease
  Investigator-Initiated Research Grant—$200,000 over three years
  Does a compound derived from an Asian medicinal plant have a disease-modifying effect in Alzheimer-like mice?

• Peter M. Tessier, Ph.D.
  Rensselaer Polytechnic Institute
  Troy, New York

  Molecular Mechanisms of Abeta Aggregation Inhibitors
  New Investigator Research Grant—$100,000 over two years
  By what mechanism does a certain class of compounds inhibit the aggregation of beta-amyloid molecules?

• Mark H. Tuszynski, Ph.D.
  University of California, San Diego
  La Jolla, California

  Therapeutic Effects of BDNF in APP Mutant Mice
  Investigator-Initiated Research Grant—$240,000 over three years
  Does brain-derived neurotrophic factor (BDNF) prevent neuron loss, preserve neuron function and improve behavioral changes in mice with amyloid precursor protein mutations?

• Jerry C. Yang, Ph.D.
  University of California, San Diego
  La Jolla, California

  Exploring Methods to Chemically Degrade Aggregated Abeta Peptides
  New Investigator Research Grant—$100,000 over two years
  Can experimental compounds degrade small, toxic aggregates of beta-amyloid in cultured cells?

2. Nutritional therapies

• Nancy B. Emerson Lombardo, Ph.D.
  Boston University
  Bedford, Massachusetts

  Nutritional Supplement Clinical Trial for Early Alzheimer’s (MPNSP)
  Investigator-Initiated Research Grant—$240,000 over three years
  Does a combination of nutritional supplements have a treatment effect in people with early-stage Alzheimer’s disease?

• Donald K. Ingram, Ph.D.
  Louisiana State University Agricultural and Mechanical College
  Baton Rouge, Louisiana

  Developing Calorie Restriction Mimetics for Treating Alzheimer’s Disease
  Investigator-Initiated Research Grant—$239,426 over three years
  Can drugs that mimic the effect of a low-calorie diet delay cognitive decline in Alzheimer-like mice?

• Thomas B. Shea, Ph.D.
  University of Massachusetts, Lowell
  Lowell, Massachusetts

  A Phase II Clinical Trial of a Vitamin/Nutriceutical Formulation for Alzheimer’s Disease
  Investigator-Initiated Research Grant—$237,449 over three years
  Does a nutritional supplement have a beneficial effect on cognitive function in people with Alzheimer’s disease?

3. Other therapies

• Fortunato Battaglia, Ph.D.
  City College of New York and the Research Foundation of City University of New York
  New York, New York

  Boosting Memory in APP/PS1 Mice With Transcranial Magnetic Stimulation
  New Investigator Research Grant—$99,000 over two years
  Can magnetic stimulation of brain cell activity restore normal function and biochemistry of synapses in Alzheimer-like mice?

• David H. Cribbs, Ph.D.
  University of California, Irvine
  Irvine, California

  Reducing the Risk of Cerebral Vascular Adverse Events in Alzheimer’s Disease
  Investigator-Initiated Research Grant—$240,000 over three years
  Can treatments reduce the effect of amyloid-induced damage to brain blood vessels in Alzheimer-like mice?

• Orestes Forlenza, Ph.D.
  University of São Paulo
  São Paulo, Brazil

  Disease-Modifying Properties of Lithium in Alzheimer’s Disease
  New Investigator Research Grant—$100,000 over two years
  Can lithium treatment delay the onset of Alzheimer’s disease in people with mild cognitive impairment?

• Pamela A. Maher, Ph.D.
  The Salk Institute for Biological Studies
  La Jolla, California

  Fisetin and derivatives as Neuroprotective Drugs for Alzheimer’s Disease
  Investigator-Initiated Research Grant—$240,000 over three years
  Can a new form of the natural product fisetin protect neurons and enhance memory in Alzheimer’s?

• Prasad R. Padala, M.D.
  University of Nebraska Medical Center
  Omaha, Nebraska

  Improving Function, Quality of Life and Glycemia in Diabetics With Dementia
  New Investigator Research Grant—$98,690 over two years
  Can a drug that reduces apathy improve blood sugar level control and quality of life in people with diabetes and dementia?

• Martin J. Sadowski, M.D., Ph.D.
  New York University School of Medicine
  New York, New York

  Therapeutic Monoclonal Antibodies for Prion Exposure Prophylaxis
  Investigator-Initiated Research Grant—$238,936 over three years
  Can an antibody block the spread of abnormal prions in mice with prion-induced neurodegeneration?
• Moussa Youdim, Ph.D.
  Technion–Israel Institute of Technology
  Haifa, Israel
  *Novel Neuroprotective and Neurorestorative Drugs for Alzheimer’s Disease*
  Investigator-Initiated Research Grant—$297,000 over three years
  Can iron-binding drugs protect and restore nerve cells in mice with an Alzheimer-like pathology?

• Dolores E. Gallagher-Thompson, Ph.D.
  Stanford University
  Stanford, California
  *Development and Evaluation of a Fotonovela to Manage Difficult Behaviors*
  Investigator-Initiated Research Grant—$240,000 over three years
  Is a fotonovela an effective tool for training Latino caregivers to manage problem behaviors and neuropsychiatric symptoms?

• Judith G. Gonyea, Ph.D.
  Boston University
  Boston, Massachusetts
  *Círculo de Cuidado: A Behavioral Group Intervention for Latino Families*
  Investigator-Initiated Research Grant—$239,080 over three years
  Can a group behavioral intervention program for Latino caregivers minimize behavioral and neuropsychiatric symptoms in people with Alzheimer’s disease?

• Kathryn de Medeiros, Ph.D.
  Copper Ridge Institute
  Sykesville, Maryland
  *The Social Environments of People With Dementia in Long-Term Care*
  New Investigator Research Grant—$99,389 over three years
  What factors influence the quality of social relationships in dementia care facilities?

• Sharon K. Inouye, M.D.
  Hebrew Rehabilitation Center for the Aged
  Boston, Massachusetts
  *Impact of Hospitalization in Alzheimer’s Disease: Risk Factors and Outcomes*
  Investigator-Initiated Research Grant—$240,000 over three years
  What are the risk factors for hospitalization and the outcomes of hospital care in people with Alzheimer’s disease?

• Susan C. Miller, Ph.D.
  Brown University
  Providence, Rhode Island
  *End-of-Life Care and Hospice: Older Adults With Dementia in Nursing Homes*
  Investigator-Initiated Research Grant—$198,963 over three years
  What is the quality and extent of hospice care available to nursing home residents with late-stage dementia?

• Quincy M. Samus, Ph.D.
  Johns Hopkins University School of Medicine
  Baltimore, Maryland
  *Specialization of Dementia Care Assisted Living: A Pilot Project*
  New Investigator Research Grant—$100,000 over two years
  How does quality of care differ between general care and dementia-specific care in assisted living facilities?

• Robert A. Stern, Ph.D.
  Boston University Medical Campus
  Boston, Massachusetts
  *Assessment of Driving Safety in Aging, Mild Cognitive Impairment and Dementia*
  Investigator-Initiated Research Grant—$239,999 over three years
  How does an interdisciplinary care model maximizing physical and psychosocial comfort affect the quality of life for people with end-stage dementia?

• David M. Bass, Ph.D.
  Benjamin Rose Institute
  Cleveland, Ohio
  *Partners in Dementia Care*
  Investigator-Initiated Research Grant—$239,811 over three years
  Can a collaborative care program of the Veterans Administration and the Alzheimer’s Association improve care for U.S. veterans?

• Michelle Bourgeois, Ph.D.
  Ohio State University
  Columbus, Ohio
  *Determining Quality of Life in Dementia With Visual and Written Stimuli*
  Investigator-Initiated Research Grant—$200,000 over three years
  Can visual and verbal techniques help people with dementia answer quality-of-life questions?

• Angelo Volandes, M.D.
  Massachusetts General Hospital
  Boston, Massachusetts
  *Using Video Images of Dementia in Advanced Care Planning*
  New Investigator Research Grant—$96,844 over two years
  Can video depictions of advanced dementia help people with early-stage dementia make long-term care plans?

• Arlene Astell, Ph.D.
  University of St. Andrews
  St. Andrews, United Kingdom
  *Prompting to Support Independence in Dementia*
  Everyday Technologies for Alzheimer Care Grant—$179,634 over two years
  What kind of electronic prompts can assist people with dementia with such tasks as cooking or keeping track of appointments?
• Holly B. Jimison, Ph.D.
  Oregon Health & Science University
  Portland, Oregon
  *Cognitive Health Coaching for Elders in a Home Environment*
  Everyday Technologies for Alzheimer Care Grant
  —$189,842 over two years
  Can a computer-based coaching tool improve the management of physical exercise, nutrition and sleep for people with dementia?

• Alex Mihailidis, Ph.D.
  University of Toronto
  Toronto, Ontario, Canada
  *Toward a Pervasive Prompting System: Improving and Expanding the COACH*
  Everyday Technologies for Alzheimer Care Grant
  —$196,324 over three years
  Can an electronic prompting tool assist people with dementia in performing everyday self-care activities?

• Pascal Poupart, Ph.D.
  University of Waterloo
  Waterloo, Ontario, Canada
  *Composite Behavioral Markers to Assess and Monitor Alzheimer’s Disease*
  Everyday Technologies for Alzheimer Care Grant
  —$200,000 over three years
  Can sensors detect behaviors that enable the monitoring of behavioral symptoms of Alzheimer’s disease?

4. Caregiver support

• Ilene Siegler, Ph.D.
  Duke University Medical Center
  Durham, North Carolina
  *Culture and the Emotional Health of Black and White Alzheimer’s Disease Caregivers*
  Investigator-Initiated Research Grant—$238,729 over three years
  How do cultural and social factors influence the emotional health of caregivers?