Ongoing Research Projects

The research projects listed here were ongoing and active in 2023, having received funding from Cure Alzheimer's Fund in a previous year.

Project/Researcher	Distribution Amount
FOUNDATIONAL RESEARCH	
GENETIC RISK FACTORS	
Analytical and Statistical Tools for Sequence Analysis for Alzheimer's Disease Christoph Lange, Ph.D., Harvard T.H. Chan School of Public Health	**$244,496**
BIOMARKERS, DIAGNOSTICS, AND STUDIES OF RISK AND RESILIENCE	
Harnessing Big Data to Understand Alzheimer's Disease Risk Brad A. Racette, M.D., Barrow Neurological Institute; Susan Searles Nielsen, Ph.D., and Alejandra Camacho-Soto, M.D., M.P.H.S., Washington University School of Medicine in St. Louis	**$172,500**
Neurobiological Basis of Cognitive Impairment in African Americans: Deep Phenotyping of Older African Americans at Risk of Dementia—The Dementia (in) African American Population Phenotyping (for) Potential Elevated Risk (DAAPPER) Study Henry L. Paulson, M.D., Ph.D., Bruno Giordani, Ph.D., and Benjamin M. Hampstead, Ph.D., ABPP/CN, University of Michigan	**$243,407**
Personalized Disease Prediction for Alzheimer's Disease Using Proteome Profiling: The EPIC4AD Study Christina M. Lill, M.D., M.Sc., University of Münster, Germany; Imperial College London, England Lars Bertram, M.D., University of Lübeck, Germany	**$541,897**
Sex Differences in Alzheimer's Disease Progression: Framingham Heart Study Murali Doraiswamy, M.B.B.S., Duke University School of Medicine	**$199,162**
Stable Isotope Labeling and Quantitative Mass Spectrometry Imaging of Alzheimer's Disease Pathology in Human Brain Katherine Schwetye, M.D., Ph.D., Washington University School of Medicine in St. Louis	**$150,000**
BIOLOGICAL RESEARCH MATERIALS: NEW ANIMAL AND CELLULAR MODELS, AND HUMAN SAMPLES	
Creation of a Fibroblast/iPS Cell Bank to Facilitate Peripheral/Brain Comparisons, and Allow Molecular Investigations into Molecular Mechanisms Underlying Differences in Disease Aggressiveness Bradley T. Hyman, M.D., Ph.D., Massachusetts General Hospital; Harvard Medical School	**$250,000**
Development of a Multicellular Brain Model to Study Brain-Vascular-Peripheral Immune Cells Crosstalk in Alzheimer's Disease Mehdi Jorfi, Ph.D., Joseph Park, Ph.D., and Rudolph E. Tanzi, Ph.D., Massachusetts General Hospital; Harvard Medical School	**$172,500**
Neuronal Subtype-Specific Modeling of Alzheimer's Disease by Direct Neuronal Reprogramming of Patient Fibroblasts Andrew S. Yoo, Ph.D., Washington University School of Medicine in St. Louis	**$172,500**
EPIGENETIC FACTORS	
CIRCUITS: A Unified Approach to Actionable Alzheimer's Disease Signatures Winston Hide, Ph.D., Beth Israel Deaconess Medical Center; Harvard Medical School	**$248,980**
CIRCUITS: Characterizing Epigenetic Biomarkers of Human Cognitive Aging Lars Bertram, M.D., University of Lübeck, Germany	**$252,250**
CIRCUITS: Consortium to Infer Regulatory Circuits and Uncover Innovative Therapeutic Strategies—Production Group Manolis Kellis, Ph.D., and Li-Huei Tsai, Ph.D., Massachusetts Institute of Technology; Broad Institute	**$550,000**
CIRCUITS: Impact of Genetic, Epigenetic and Cellular Variants on Alzheimer's Disease Pathology Rudolf Jaenisch, M.D., Whitehead Institute; Massachusetts Institute of Technology Joseph R. Ecker, Ph.D., Salk Institute for Biological Studies	**$422,500**
CIRCUITS: Interpreting Alzheimer's Disease-Associated Genetic Variation at Enhancer Regions Andreas R. Pfenning, Ph.D., Carnegie Mellon University	**$200,000**

ONGOING RESEARCH PROJECTS (CONTINUED)

Project/Researcher	Distribution Amount
TRANSLATIONAL RESEARCH	
STUDIES OF NOVEL ALZHEIMER'S DISEASE GENES	
ABCA7 Loss of Function in Aging and Alzheimer's Disease Takahisa Kanekiyo, M.D., Ph.D., Mayo Clinic, Jacksonville Guojun Bu, Ph.D., Hong Kong University of Science and Technology	**$172,500**
Dissecting the Modulatory Roles of Interleukin-17 Receptor D in Alzheimer's Disease Jun Huh, Ph.D., Harvard Medical School	**$201,250**
Functional Basis for Novel Protein Kinase C-eta K46R Mutation in Alzheimer's Disease Alexandra C. Newton, Ph.D., University of California, San Diego	**$172,500**
In Vivo Characterization of a Loss-of-Function GGA3 Rare Variant Associated with Alzheimer's Disease Giuseppina Tesco, M.D., Ph.D., Tufts University School of Medicine	**$172,500**
Single Nucleus RNA Sequencing Analysis of ACE1 R1284Q Knockin Mice Robert J. Vassar, Ph.D., David M. Gate, Ph.D., and Leah Cuddy, Ph.D., Northwestern University Feinberg School of Medicine	**$246,804**
Understanding, and Mimicking, the Biological Effects of the Phospholipase C-gamma-2 P522R Variant That Protect Against Alzheimer's Disease Rik van der Kant, Ph.D., Amsterdam University Medical Center, The Netherlands	**$173,104**
STUDIES OF AMYLOID PRECURSOR PROTEIN AND AMYLOID BETA	
Effects of Depalmitoylation and ACAT Inhibition on Axonal Amyloid Beta Generation via MAM-Associated palAPP Raja Bhattacharyya, Ph.D., and Rudolph E. Tanzi, Ph.D., Massachusetts General Hospital; Harvard Medical School	**$172,500**
SFRP1 as a Therapeutic Target and Diagnostic/Prognostic Factor In Alzheimer's Disease Paola Bovolenta, Ph.D., Universidad Autónoma de Madrid, Spain	**$172,500**
Structural Mimicry in Microbial and Antimicrobial Amyloids Connected to Neurodegenerative Diseases Meytal Landau, B. Pharm., M.Sc., Ph.D., Technion, Israel Institute of Technology; Deutsches Elektronen-Synchrotron (DESY), Germany	**$200,760**
STUDIES OF TAU	
Alzheimer's Disease Tau Consortium: Deep Mass Spectrometry Profiling of Tau Aggregates in Alzheimer's Disease and Other Tauopathies Henrik Zetterberg, M.D., Ph.D., and Gunnar Brinkmalm, Ph.D., University of Gothenburg, Sweden	**$287,500**
Investigating the Role of Tau Protein in Neuronal Senescence Induction and Maintenance Miranda E. Orr, Ph.D., Wake Forest University School of Medicine	**$172,500**
Mechanisms of Tau Propagation Across the Plasma Membrane Marc I. Diamond, M.D., University of Texas Southwestern Medical Center	**$250,000**
Reversal of Tau Pathology by an Adenosine A1 Receptor Antagonist Eckhard Mandelkow, Ph.D., Eva-Maria Mandelkow, M.D., Ph.D., and Anja Schneider, M.D., German Center for Neurodegenerative Diseases (DZNE), Germany	**$287,500**
Targeting Tauopathies with Antisense Oligonucleotides to Synaptogyrin-3 Patrik Verstreken, Ph.D., VIB-KU Leuven, Belgium	**$215,625**
Using Long-Read Sequencing to Investigate the MAPT Locus and Transcripts in Neurodegeneration John Hardy, Ph.D., University College London, England	**$201,250**

ONGOING RESEARCH PROJECTS (CONTINUED)

Project/Researcher	Distribution Amount
STUDIES OF APOLIPOPROTEIN E (APOE)	
Fleming APOE Consortium: Assessing the Added Diagnostic Value of Peripheral Apolipoprotein E Protein Levels in Current Blood-Based Biomarker Assays for Central Nervous System Amyloidosis Randall J. Bateman, M.D., Washington University School of Medicine in St. Louis	**$252,077**
Fleming APOE Consortium: Effect of Cholesteryl Ester Transfer Protein Activity on Amyloid and Cerebrovascular Pathologies in Animal Models of Alzheimer's Disease Cheryl Wellington, Ph.D., University of British Columbia, Canada	**$287,500**
Apolipoprotein E and Immunometabolism in Alzheimer's Disease Lance A. Johnson, Ph.D., Ramon Sun, Ph.D., and Josh Morganti, Ph.D., University of Kentucky College of Medicine	**$172,500**
Establishing the Molecular and Cellular Mechanisms and Biomarkers of APOE4-Mediated Susceptibility to Tau-Related Cognitive Impairments Joel Blanchard, Ph.D., Icahn School of Medicine at Mount Sinai	**$172,500**
Sex Matters: Understanding the Influence of Sex and Apolipoprotein E (APOE) Genotype on Hippocampal Plasticity and Cognition Liisa Galea, Ph.D., University of British Columbia, Canada	**$170,200**
STUDIES OF THE IMMUNE RESPONSE IN ALZHEIMER'S DISEASE	
Neuroimmune Consortium: Assessing the Links Between the MS4A Risk Genes, Microglia and Alzheimer's Disease Sandeep Robert Datta, M.D., Ph.D., Harvard Medical School	**$250,000**
Neuroimmune Consortium: Biomarker Tool Development Jacob Hooker, Ph.D., Massachusetts General Hospital; Harvard Medical School	**$287,500**
Neuroimmune Consortium: Examining the Role of Human Microglia in the Transition Between Parenchymal and Vascular Beta-Amyloid Pathology Mathew Blurton-Jones, Ph.D., University of California, Irvine	**$250,000**
Neuroimmune Consortium: Investigation of Alzheimer's Disease Risk Alleles in Astrocytes—Focus on Cholesterol Transport and Microglia Interactions Shane A. Liddelow, Ph.D., New York University	**$115,000**
Neuroimmune Consortium: Leveraging Enhancer Landscapes to Decode Alzheimer's Disease Risk Alleles in Microglia Christopher K. Glass, M.D., Ph.D., University of California, San Diego	**$250,000**
Neuroimmune Consortium: Understanding the Consequences of Noncoding Alzheimer's Disease Risk Alleles on Microglia Function Beth Stevens, Ph.D., Boston Children's Hospital; Harvard Medical School; Broad Institute	**$300,000**
Elucidating the Role of Soluble Epoxide Hydrolase and Arachidonic Acid Metabolism in Neuroinflammation and Alzheimer's Disease Hui Zheng, Ph.D., Baylor College of Medicine	**$167,637**
Role of Checkpoint Molecule TIM-3 in Regulating Microglia in Alzheimer's Disease Vijay K. Kuchroo, D.V.M., Ph.D., Brigham and Women's Hospital; Harvard Medical School	**$172,500**
Role of Microglia in Degradation and Trimming of Alzheimer's Amyloid Beta Frederick R. Maxfield, Ph.D., Weill Cornell Medical College	**$172,500**
Role of SPARC in Immunometabolic Control of Age-Related Inflammation Vishwa Deep Dixit, D.V.M., Ph.D., Yale School of Medicine	**$172,500**
Targeting a Master Innate Immune Adaptor Molecule in Alzheimer's Disease John R. Lukens, Ph.D., University of Virginia School of Medicine	**$172,500**
Targeting Reactive Astrocytes for Therapeutic Intervention of Alzheimer's Disease Gilbert Gallardo, Ph.D., Washington University School of Medicine in St. Louis	**$172,500**

ONGOING RESEARCH PROJECTS (CONTINUED)

Project/Researcher	Distribution Amount
The Neuroprotective Glial Barrier: A Multicellular Reaction with Therapeutic Potential in Alzheimer's Disease Jaime Grutzendler, M.D., Yale School of Medicine	**$172,500**
The Role of Astrocyte-Derived Toxic Lipids Mediating Degeneration in Alzheimer's Disease Shane A. Liddelow, Ph.D., New York University	**$174,883**
VGF-Derived Peptide Therapy for Alzheimer's Disease: Studies of Mouse and Human TLQP-21 and Its Receptor, C3aR1 Michele E. Ehrlich, M.D., and Stephen R. Salton, M.D., Ph.D., Icahn School of Medicine at Mount Sinai	**$172,500**
STUDIES OF ALTERNATIVE NEURODEGENERATIVE PATHWAYS	
Cellular Vulnerability to Aging in Alzheimer's Disease Mathieu Bourdenx, Ph.D., and Karen E. Duff, Ph.D., University College London, England	**$230,000**
Characterizing Gut Microbiome Synergy With Emphasis on Mycobiome and Its Impact on Alzheimer's Disease (AD) Pathology in AD Mouse Models Deepak Kumar Vijaya Kumar, Ph.D, Nanda Kumar Navalpur Shanmugam, Ph.D., William Eimer, Ph.D., and Rudolph E. Tanzi, Ph.D., Massachusetts General Hospital; Harvard Medical School	**$250,000**
Circadian Perturbations of the Vasculome and Microgliome in Alzheimer's Disease Eng H. Lo, Ph.D., Massachusetts General Hospital; Harvard Medical School	**$200,417**
Gut Microbiota, Endothelial Dysfunction and Tau-Mediated Cognitive Impairment Giuseppe Faraco, M.D., Ph.D., and Costantino Iadecola, M.D., Weill Cornell Medicine	**$172,500**
Harnessing Meningeal Lymphatics and Immunity to Alleviate APOE4-Induced Brain Dysfunction Sandro Da Mesquita, Ph.D., Mayo Clinic, Jacksonville	**$172,500**
Identifying the Sex-Specific Roles of the Gut Microbiome-Brain Axis in a Mouse Model of Amyloid Beta Amyloidosis Sangram S. Sisodia, Ph.D., University of Chicago	**$210,871**
Immunotherapies Targeting the Microbiota to Prevent Cognitive Decline in Alzheimer's Disease Gerald B. Pier, Ph.D., Colette Cywes-Bentley, Ph.D., and Cynthia A. Lemere, Ph.D., Brigham and Women's Hospital; Harvard Medical School	**$183,562**
Molecular Signatures of APOE-Mediated Blood-Brain Barrier Dysfunction Causing Neuronal and Synaptic Dysfunction Berislav V. Zlokovic, M.D., Ph.D., University of Southern California	**$250,000**
Neural Synaptic Circuit Changes During Alzheimer's Disease Progression Huizhong W. Tao, Ph.D., University of Southern California	**$172,500**
Neuroinflammation Contributions to Alzheimer's Disease: Role of the Choroid Plexus Maria K. Lehtinen, Ph.D., Boston Children's Hospital; Harvard Medical School, and Liisa Myllykangas, M.D., Ph.D., University of Helsinki, Finland	**$172,500**
Role of the Circulating Exerkine GPLD1 in Ameliorating Alzheimer's Disease Pathology Saul Villeda, B.S., Ph.D., University of California, San Francisco	**$201,250**
Temporal Relationships Between Gut Dysbiosis and Microglia Cell Activation Following Antibiotic Treatment Sangram S. Sisodia, Ph.D., University of Chicago	**$229,033**
Turning Up Mitophagy to Blunt Alzheimer's Tau Pathologies Evandro F. Fang, Ph.D., University of Oslo, Norway	**$201,250**
Understanding How Human Brain Vascular Cells Mediate Genetic Risk for Alzheimer's Disease Andrew Yang, Ph.D., University of California, San Francisco	**$201,250**

ONGOING RESEARCH PROJECTS (CONTINUED)

Project/Researcher	Distribution Amount
DRUG DISCOVERY	
DRUG SCREENING AND LEAD DRUG EVALUATION PROJECTS	
Alzheimer's Disease Drug Discovery and Development Consortium: Blocking Synaptotoxicity in Alzheimer's Three-Dimensional Models Weiming Xia, Ph.D., Boston University	**$197,500**
Alzheimer's Disease Drug Discovery and Development Consortium: High-Throughput Drug Screening for Alzheimer's Disease Using Three-Dimensional Human Neural Culture Systems Doo Yeon Kim, Ph.D., and Luisa Quinti, Ph.D., Massachusetts General Hospital; Harvard Medical School	**$230,590**
Alzheimer's Disease Drug Discovery and Development Consortium: Modulating CD33 Function and Neuroinflammation as a Therapeutic Approach for Alzheimer's Disease Ana Griciuc, Ph.D., Massachusetts General Hospital; Harvard Medical School	**$197,500**
Alzheimer's Disease Drug Discovery and Development Consortium: Uncovering the Molecular Mechanism of Selected Drug Candidates Derived From Systematic Alzheimer's Drug Repositioning Stephen T.C. Wong, Ph.D., Houston Methodist Research Institute; Weill Cornell Medicine	**$225,000**
A Transcriptional Rejuvenation Signature for Alzheimer's Disease Tony Wyss-Coray, Ph.D., Stanford University	**$172,500**
Identification of CD33 Antagonists Subhash Sinha, Ph.D., Weill Cornell Medicine	**$172,500**
Small Molecule Activators of PLC-gamma-2 as Novel Therapeutics for Alzheimer's Disease Qisheng Zhang, Ph.D., John Sondek, Ph.D., and Kenneth Pearce, Ph.D., University of North Carolina at Chapel Hill	**$172,500**
Stimulating Synaptic Proteasome Activity for the Treatment of Alzheimer's Disease Hermann Steller, Ph.D., The Rockefeller University	**$172,500**
DRUG DELIVERY AND ENABLING TECHNOLOGIES	
Novel Entry Routes for Therapeutic Biologicals to the Brain Maarten Dewilde, Ph.D., KU Leuven, Belgium, and Bart De Strooper, M.D., Ph.D., KU Leuven, Belgium; University College London, England	**$172,500**
PRECLINICAL AND CLINICAL DRUG DEVELOPMENT	
PRECLINICAL DRUG DEVELOPMENT	
Combined Hormone Therapy as a Novel Treatment for Alzheimer's Disease in the Face of a Metabolic Challenge: Influence of Sex and Genotype Liisa Galea, Ph.D., and Annie Ciernia, Ph.D., University of British Columbia, Canada	**$201,250**
Continuing Studies of the Effects of GSM 776890 Administration on Amyloid Species and Microgliosis in Older Alzheimer's Model Mice Kevin Rynearson, M.S., Ph.D., University of California, San Diego	**$291,374**
CLINICAL TRIAL DESIGN	
Application of Machine Learning Methods in Alzheimer's Disease Clinical Trials Ali Ezzati, M.D., University of California, Irvine, and Richard B. Lipton, M.D., Albert Einstein Medical College	**$100,000**