Quarterly news and updates from the
Stanford Alzheimer's Disease Research Center
and the Healthy Brain Aging Study

MIND MATTERS

2021 Spring Issue

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A·D·R·C
for healthy brain aging

We at the Alzheimer's Disease Research Center (ADRC) hope that 2021 is off to a great start for you and your loved ones. We thank you for your continued support and appreciate your efforts and willingness to continue accommodating our virtual and telephone visits.

As we mentioned in a previous newsletter, we were awarded a $15 million grant from the National Institute on Aging. This award is a 5-year renewal of a $7.3 million grant that was initially awarded to us in 2015, and it will allow us to continue to translate our research into improving the diagnosis, treatment, prevention, and care for people with Alzheimer's disease, Parkinson's disease, Lewy body disease, mild cognitive impairment and related cognitive disorders. As a part of this ongoing effort, the ADRC supports research by qualified investigators at Stanford and from other institutions. Our center support takes various forms, including de-identified data (clinical, neuropsychological, neuroimaging, genetic, biospecimen, or neuropathological data), tissues and biospecimens, referrals to ADRC participants who have agreed in advance to be contacted, imaging expertise, and biostatistical expertise. We are currently looking for interested ADRC participants who are willing to participate in the following additional studies:

ADRC Health IQ Study

As technology continues to develop user friendly means of measuring cognition, we are pleased to collaborate with Health IQ to evaluate a new, short computerized test designed to measure cognitive abilities such as attention, executive function, and memory. Advances in computerized testing can make assessments more accessible and feasible for many populations. We are looking for participants who are either healthy controls, have mild cognitive impairment (MCI), or have mild Alzheimer's disease. This research involves only a single session.

Alzheimer Gut Microbiome Project

The Alzheimer Gut Microbiome Project aims to further our understanding of the communication between microbiomes in the gut and the brain. Recent research suggests that the digestive system may impact brain health, including memory and thinking. This is an upcoming and exciting area of research. We are fortunate to have Dr. Ami Bhatt, a microbiome specialist, as a physician in our Clinical and Biomarker Cores, who leads this effort. We are looking for participants who are healthy controls, have mild cognitive impairment (MCI), or have Alzheimer's disease who would be willing to collect a small stool sample and a tiny blood sample using an at-home collection device. Samples will be mailed back in a postage-paid shipping container. Please see Page 3, for a highlight on more of Dr. Bhatt's work.

Healthy Brain Aging Study

We are actively enrolling for the Healthy Brain Aging Study and are eager to diversify our cohorts, striving to increase enrollment of people from the Latinx, Asian, and African-American communities. If you know of anyone who would be interested or have ideas or connections for how best to reach these communities, please let us know.

If you have any questions and/or are interested in the studies described, please contact the Stanford ADRC at adrcstanford@stanford.edu or at (650) 721-2409.

ADRC CORES

Biomarker Core

Biomarkers have enormous value for the detection, management, and treatment of disease, as well as for the development of novel therapeutics. Biomarkers are especially useful in the management of cardiovascular disease and diabetes. However, biomarkers, especially predictive, easily obtainable ones, are still largely absent with respect to neurodegenerative diseases. The best fluid biomarkers currently available for Alzheimer's disease (AD) include Aβ (also called beta amyloid), tau, and neurofilament obtained from cerebrospinal fluid (CSF), a valuable biofluid drawn from the spinal cord via a lumbar puncture. We are also exploring similar biomarkers in blood samples. Other biomarkers for AD include brain imaging, which are expensive and sometimes have low sensitivity and specificity at the individual level.

The members of the Biomarker Core have considerable experience in unbiased multi-omic screens (multiple layers of biological data) and data analysis. Over the years, members of the Biomarker core have published numerous articles on studies focused on developing new biomarkers for neurodegenerative and other diseases. The Biomarker core leaders and their collaborators have used the generous contributions via biospecimens from our Stanford ADRC participants to generate extensive preliminary data. These data have helped expand our understanding of the role of proteins, messenger RNA and immune phenotypes and their role in both Alzheimer and Parkinson's disease.

Based on this expertise, the mission of the Biomarker Core is to help discover novel biomarkers for AD and Parkinson's disease, as well as to unravel the biological underpinnings of pathological processes that lead to dementia. This quest is in line with the core mission of NAPA (National Alzheimer's Project Act). The Biomarker Core will continue to collect genetic and molecular measurements from a broad source of tissues from ADRC participants. We will process and disseminate various measurements through web portals and by other means to internal and external researchers. Biomarker, clinical, and imaging data will be integrated and analyzed together and new algorithms for data analysis will be developed, with efforts to expand pipelines for data dissemination.

The Biomarker Core is led by Tony Wyss-Coray, PhD and co-led by Katrin Andreasson, MD. Other faculty and staff in the core include Nima Aghaeepour, PhD, Divya Channappa, MS, Malia Belnap, BS, and Patricia Losada Moran, PhD.

Tony Wyss-Coray, PhD
Core Leader

Katrin Andreasson
Associate Core Leader

Nima Aghaeepour, PhD

Patricia Losada Moran, PhD

Divya Channappa, MS
Project Coordinator

Malia Belnap, BS

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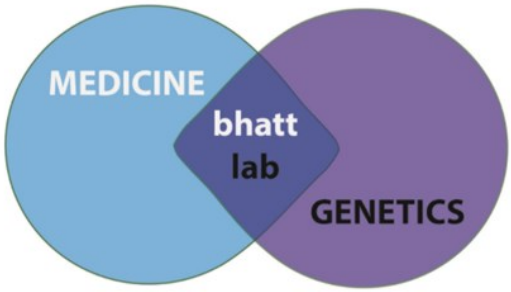
ADRC FACULTY HIGHLIGHTS

Ami Bhatt, MD, PhD
Assistant Professor of Medicine and Genetics

Dr. Ami Bhatt, MD, PhD is physician scientist with a strong interest in microbial genomics, metagenomics, and global health. She received her MD and PhD from the University of California, San Francisco. She then carried out her residency and fellowship training at Harvard's Brigham and Women's Hospital and the Dana-Farber Cancer Institute, and she served as Chief Medical Resident from 2010-2011. She joined the faculty of the Departments of Medicine (Divisions of Hematology and Blood & Marrow Transplantation) and Genetics at Stanford University in 2014 after completing a post-doctoral fellowship focused on genomics at the Broad Institute of Harvard and MIT.

Dr. Bhatt has received multiple awards for her academic scholarship including the Chen Award of Excellence from the Human Genome Organization (HUGO).

Her lab develops molecular and computational methods to investigate the intestinal microbiome, with a strong focus on:
(a) developing methods to detect and follow microbes at the strain level through time and space,
(b) detecting and understanding the contribution of mobile genetic elements to bacterial evolution and phenotypes, and
(c) understanding how microbes use small proteins to communicate with one another and with the host.



Additional Opportunities to Participate in Research

Studies directly supported by the ADRC

Healthy Brain Aging Study

Sponsor: National Institute of Health **Study status:** Open, enrollment ongoing

Research Coordinator: Christina Wyss-Coray CWyssCoray@stanfordhealthcare.org or 650-721-2409

Pacific Udall Center

Sponsor: NIH/NINDS Morris K. Udall Center of Excellence for Parkinson's Disease Research **Study status:** Open, enrollment ongoing

Research coordinator: Maria-Lucia Campos udallcenter@stanford.edu or 650-721-5274

Clinical Trials

Sponsor: NIA (PEACE-AD) **Study status:** Open, enrollment ongoing

Intervention: This study will be evaluating the efficacy and safety of Prazosin (alpha-1 adrenoreceptor antagonist).

Population of Interest: Probable or possible Alzheimer's disease and experiencing symptoms of agitation.

PI: Victor Henderson, MD and Sharon Sha, MD

Contact: Amanda Ng amandang@stanford.edu or (650) 485-9560

For more information on the trial, please visit: https://clinicaltrials.gov/ with identifier**: NCT03710642**

Sponsor: Eisai and NIH (AHEAD 3-45 Study) **Study Status:** Upcoming

Intervention: This study will be evaluating the efficacy and safety of BAN2401 (monoclonal antibody binding to amyloid).

Population of Interest: Pre-clinical Alzheimer's disease

PI: Sharon Sha, MD

Contacts: Amanda Ng amandang@stanford.edu or (650) 485-9560

Viktoriya Bourakova viktoriya.bourakova@stanford.edu or (650) 709-9041

For more information on the trial, please visit: https://clinicaltrials.gov/ with identifier: **NCT04468659**

Sponsor: Indiana University and NIA (LEADS) **Study Status:** Upcoming

Population of Interest: Early onset Alzheimer's Disease, Early onset non-Alzheimer's Disease, and healthy controls

Brief Summary: This is study interested in following participants over time to further our understanding of disease progression. Clinical, cognitive, imaging, biomarker, and genetic characteristics will be assessed.

PI: Sharon Sha, MD

Contact: Christina Wyss-Coray cwysscoray@stanfordhealthcare.org or (650) 721-2409

For more information on the trial, please visit: https://clinicaltrials.gov/ with identifier: **NCT03507257**

Sponsor: Genentech/Roche (Digital Biomarker) **Study Status:** Open, enrollment ongoing

Population of Interest: Healthy controls, Subjective cognitive decline, prodromal and mild Alzheimer's disease

Brief Summary: This is a study to evaluate smartphone-based assessments of cognition and behavior.

PI: Sharon Sha, MD

Contact: Viktoriya Bourakova viktoriya.bourakova@stanford.edu or (650) 709-9041