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International Conference on
Prevention of Dementia

New Recruiting Studies

New Adjunct Faculty

New Alzheimer's Vaccine Trial

The Boston University Alzheimer's Disease Center (BU ADC) has been selected to participate in a new nationwide clinical trial for the treatment of mild to moderate Alzheimer's disease (AD). BU ADC investigators will be partnering with Elan and Wyeth pharmaceutical companies, the sponsors of this clinical trial, who developed the new vaccine called bapineuzumab (pronounced bap-e-new'-zoo-mab).

Bapineuzumab is expected to increase the clearance of beta amyloid from the brain. Beta amyloid is a small protein that leads to the amyloid plaques in the brains of AD patients and is widely believed to be the initial cause of AD. The vaccine used in this clinical trial is referred to as passive immunotherapy. This type of therapeutic approach delivers synthetically engineered anti-amyloid antibodies directly to the participant's bloodstream with the aim of clearing and preventing beta amyloid accumulation.

In an earlier trial by Elan-Wyeth, mild to moderate AD patients were provided with a synthetic form of the beta amyloid peptide to stimulate the body's immune response to clear beta amyloid from the brain. Preliminary results indicated observable amyloid plaque clearance, improved memory and cognitive functions, and reduced levels of tau protein (a biological marker known to be elevated in AD) in the cerebral spinal fluid. Researchers believe that the passive immunotherapeutic approach with bapineuzumab may be as effective as active immunization in clearing beta amyloid from the brain. It may also have the added benefit of eliminating the need for patients to stimulate their own immune response to the protein.

"This is an exciting time for AD treatment research," said Dr. Robert Stern, Co-Director of the BU Alzheimer's Disease Clinical and Research Program, Associate Director of the BU ADC Clinical Core, and the BU principal investigator for the new vaccine study. "Bapineuzumab is one of several new experimental treatments for AD in phase III clinical trials that may actually help modify the disease process."

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New CCRC Affiliations for the BU ADC

In a continued effort to advance its goals of making expert clinical care and research opportunities easily available to patients with Alzheimer's disease (AD) and their families, as well as providing education about AD and dementia to the greater Boston community, the Boston University Alzheimer's Disease Center (BU ADC) is pleased to announce the establishment of formal affiliations with several continuing care retirement communities (CCRCs) throughout eastern Massachusetts. BU ADC staff will provide continuing education and in-service professional training to the CCRC staff members. Seminars and lectures will be given by BU ADC experts to educate residents and family members about memory loss, dementia, prevention, treatment, and caregiving. Residents will also gain easy access to the BU ADC's exciting research program and the opportunity to participate in a variety of clinical research studies, including clinical trials of new treatments.

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Ross-Worthen Sensory Garden at
Carleton-Willard Village

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The first two CCRCs to sign on as affiliates include Carleton-Willard Village and the Senior Living Residences. Carleton-Willard Village is a not-for-profit community located in Bedford that provides a continuum of care for individuals over the age of 65 years. Carleton-Willard's commitment to caring for residents with AD and related dementias, as well as its innovative "Learning in Retirement" program, make it a perfect partner for the BU ADC. Barbara Doyle, CEO and President of Carleton-Willard Village, said, "The affiliation with the BU Alzheimer's Disease Center provides Carleton-Willard with a wonderful opportunity to integrate emotional health with physical health and to collaborate with an outstanding institution as we continue to develop a reputation as a center for excellence in gerontology."

The Senior Living Residences, located throughout eastern Massachusetts, have been a leader in the creation of service-enriched housing and care options for seniors in New England and consist of a number of communities that cater to individuals with diverse needs. Senior Living Residences emphasize providing intellectually enriched activities and expert clinical care to their residents, making them an ideal affiliate of the BU ADC. According to Tadd Clelland, Executive Vice President of Senior Living Residences, the affiliation with the BU ADC "creates opportunities for our families and residents to have access to the world's leaders in research, education, and treatment of Alzheimer's disease."

Dr. Robert Stern, Associate Director of the BU ADC Clinical Core, said, "These affiliation agreements are a natural extension of the BU ADC's goals and will hopefully prove mutually beneficial for both the CCRCs and the BU ADC. The residents gain easy access to the BU ADC's cutting-edge research initiatives, while the BU ADC is able to continue its mission of providing clinical care and education to those in need in the community."

The BU ADC is currently planning additional affiliations with local CCRCs. For more information, contact Erin Whalen at 617-414-1078 or ewhalen@bu.edu.

Research Update

Klotho gene and brain aging

The most important risk factor for developing Alzheimer's disease (AD) is aging. Dr. Carmela Abraham's laboratory investigates genes that are abnormally modified during aging and may contribute to neurodegeneration and cognitive decline. One such gene is Klotho, coding for an anti-aging protein that is released from the cells that produce it and circulates as a hormone. Dr. Chen, an Assistant Professor in Dr. Abraham's laboratory, discovered the enzymes that are responsible for the release of Klotho and other factors that affect this event. Dr. Chen's work followed the pioneering studies by Dr. Duce, who discovered that Klotho, which acts as an antioxidant, is significantly decreased in the aged brain. These studies have been accepted for publication in major journals, and studies aimed at finding ways to increase Klotho expression are under way.

REVEAL update

Susan Hiraki, genetic counselor and project manager for the Risk Evaluation and Education for Alzheimer's Disease (REVEAL) Study, presented data from REVEAL at two conferences in October, including the World Psychiatric Genetics Conference in New York City and the National Society of Genetic Counselors Conference in Kansas City. For those individuals seeking APOE genetic susceptibility testing for AD risk, perceived risk of AD was significantly associated with having a stronger family history of AD and with stronger belief in genetics as an AD risk factor. Exploring predictors of risk perception is an important area of study for genetic counseling for AD risk, in addition to genetic risk assessment for other common complex diseases.

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< *New Vaccine Trial continued from page 1*

The BU ADC has been actively involved in clinical trials for another potential disease modifying drug, Flurizan (Myriad Pharmaceuticals) over the past two years. Results from those trials are expected within one year. For more information regarding studies being conducted at the BU ADC, please contact Erin Whalen at 617-414-1078 or ewhalen@bu.edu or visit our website at www.bu.edu/alzresearch.

Strategies to improve memory

Dr. Brandon Ally investigates which facets of memory remain relatively intact in early AD. This information is then used to develop strategies to improve memory in AD patients. Dr. Ally's recent findings suggest that AD patients can remember pictures at a much higher rate than words. Dr. Ally is currently recruiting for new studies investigating why patients with AD can better remember pictures over words and how verbal memory can be improved by turning words into pictures using techniques, such as mental imagery.

False memory and AD

In a special edition of the journal *Cortex* honoring the 100th anniversary of Alois Alzheimer's seminal paper on AD, Dr. Budson and colleagues reported the research results of their telephone interviews administered to patients with AD, patients with mild cognitive impairment, and healthy older adults. These interviews were administered in the weeks following the September 11th attacks, again three to four months later, and finally one year later. Findings suggest that the memories of all participants declined from the first to the second interview, and these memories were then relatively stable from the second to the third interviews. Interestingly, these memories became false and distorted 25% of the time for healthy older adults and 47% of the time for patients with AD. Although we may always remember where we were and what we were doing when we heard tragic news, such memories initially decline and many of the remaining memories are false and distorted, particularly among those with memory disorders (see Budson et al., *Memory for the September 11, 2001, terrorist attacks one year later in patients with Alzheimer's disease, patients with mild cognitive impairment, and healthy older adults. Cortex* 2007, 43:875-888).

Neurodevelopmental factor and the aging brain

Dr. Peter Morin's laboratory investigates the role of Wnt signaling factors in AD. Their recent work published in *Neurobiology of Disease* (2007; 26(1):125-33) identified an association between the Wnt co-receptor, Lrp6, and Vps35, a retromer protein involved in transport of proteins from the endosome to the Golgi apparatus. Both proteins have been implicated in sporadic AD, and the laboratory is now focused

New Adjunct Faculty Member

The Boston University Alzheimer's Disease Center (BU ADC) is pleased to welcome Dr. David Tate as an Adjunct Assistant Professor of Neurology and research affiliate. Dr. Tate is a clinical neuropsychologist with a primary academic appointment at the Harvard Medical School, where he is an Instructor in the Department of Radiology at the Brigham and Women's Hospital. Dr. Tate's research interests focus on using magnetic resonance imaging (MRI) to better understand the central nervous system effects of diseases, such as HIV, cardiovascular disease, and dementia. Dr. Tate will help facilitate neuroimaging research initiatives with BU ADC faculty. For instance, in collaboration with BU ADC investigator Dr. Angela Jefferson, Dr. Tate recently received a BU ADC Pilot Award to examine the association between cardiovascular and brain MRI measures in aging adults with mild cognitive impairment.



Dr. David Tate, new Adjunct Assistant Professor

on determining how APP processing and Wnt signal transduction are associated with the retromer. Dr. Morin and his colleagues are very interested in the broader question of how neurodevelopmental factors, like Wnts, play a role in the aging brain in health and disease.

Simvastatin and dementia

Dr. Benjamin Wolozin and colleagues recently published data in *BMC Medicine* showing that simvastatin is associated with a significantly reduced number of cases of dementia. This work also makes the surprising finding that not all statins are equal when it comes to dementia or Parkinson's disease, because simvastatin was the only statin associated with a decrease in this study. Two recent publications in *Neurology* provide strong confirmation supporting the putative benefit of statins for individuals with AD.

Alzheimer's in the News

The International Conference on Prevention of Dementia, sponsored by the Alzheimer's Association, was recently held in June in Washington, DC. Attracting more than 16,000 dementia experts and attendees, this meeting is the world's most prominent multidisciplinary forum for professionals from the fields of bench research, drug discovery, medicine, clinical care, and public policy.

Several clinical researchers from the Boston University Alzheimer's Disease Center (BU ADC) attended this meeting, with many faculty members and affiliates presenting their recent research findings. Dr. Robert Green, principal investigator of the Risk Evaluation and Education for Alzheimer's Disease (REVEAL) Study, reported that there were no significant differences in mood or anxiety levels between participants who received an extended, lengthy, in-person counseling session of their genetic risk for Alzheimer's disease (AD) as compared to those who received a condensed, more clinically-feasible counseling session. Dr. Anil Nair, a BU ADC neurologist, presented data on research participant dropout rates. His findings suggested that race and self-perceived risk of AD were significantly associated with dropping out before completion of the study. Dr. Nancy Emerson Lombardo reported data showing that Memory Preservation Nutrition program recommendations are not only important for brain health but are also important for emotional and overall physical health.

The next International Conference on Prevention of Dementia will be held in Washington, DC in June 2009. More information about this conference can be found online at www.alz.org/prevention/.

Select Presentations by BU ADC Investigators at the International Conference on Prevention of Dementia

Winston Chung, Susan Hiraki, Dr. Anil Nair, and Dr. Robert Green, "Factors associated with the impact of susceptibility genetic testing of AD."

Dr. Adrienne Cupples, Dr. Lindsay Farrer, and Dr. Robert Green, "Incorporating ethnicity into genetic risk assessment for AD: The REVEAL study experience."

Dr. Nancy Emerson Lombardo, "Memory preservation nutrition intervention to reduce risk and delay progression: Clinical practice report."

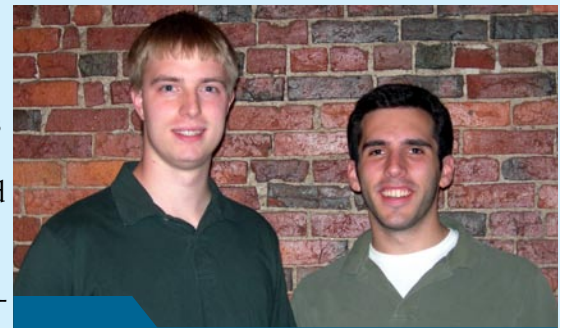
Dr. Robert Green, "Comparing the impact of a condensed vs. extended protocol for disclosure of APOE to relatives of patients with AD: The REVEAL study."

Dr. Robert Green in conjunction with Cache County Study investigators, "Use of anti-cholinesterase inhibitors and memantine in a population-based study of incident AD cases: Prevalence of use, characteristics, and relationship to mortality."

Dr. Anil Nair, Susan Hiraki, Winston Chung, and Dr. Robert Green, "Higher self-perceived risk of AD is associated with lower dropout in a study disclosing genetic susceptibility."

The PAIRS Program Kicks Off Inaugural Year

The Boston University Alzheimer's Disease Center (BU ADC) Education & Information Transfer Core is pleased to announce the launch of the PAIRS Program, an educational initiative for first year Boston University School of Medicine students. The PAIRS Program matches first year medical students with early stage Alzheimer's disease patients. The student-patient pairs meet monthly to engage in social and cultural activities. "The PAIRS program goals include increasing the medical students' knowledge of Alzheimer's disease and the support-related issues that patients face while improving students' communication skills with aging adults with cognitive impairment," said Dr. Angela Jefferson, PAIRS Program Director and Education & Information Transfer Core Co-Director. "This educational initiative is an excellent way for medical students to learn first hand about Alzheimer's disease and how it impacts patients and their caregivers, and we hope to provide a formative experience to both our patients and our medical student participants." The PAIRS program is being funded, in part, by an educational grant from the Kenneth B. Schwartz Center. For more information about the PAIRS Program, contact Erin Whalen at 617-414-1078 or ewhalen@bu.edu.



PAIRS Program participants (left to right), Joe Donahue and Dan Kirshenbaum

Actively Recruiting Studies

Study Type Study Title Study Description

Memory & Cognition	Home-Based Assessment	This study seeks to determine how easy it is to detect cognitive changes in adults aged 75 years or older from the comfort of their home. The study will compare three at-home methods, including: (1) mailing in paper questionnaires along with undergoing a live telephone interview; (2) completing an examination by using a special automated telephone interview; and (3) undergoing a similar examination by way of an easy-to-use computer (provided to participants for the study) connected to the internet.
	HOPE: Health Outreach Program for the Elderly	This longitudinal study increases our understanding of age-related changes in memory and thinking. It serves as the Boston University Alzheimer's Disease Center (BU ADC) main research registry, where participants agree to be contacted regarding other BU ADC-approved studies.
	Understanding False Memory in Alzheimer's Disease (AD)	This study seeks to better understand why patients with AD and other dementias frequently remember things that never happened. The ultimate goal of this NIA-sponsored study is to provide the basis for ways to reduce false memories in patients with dementia.
Neuroimaging	Brain and Heart Aging	This study will relate cardiac function to brain changes, using sensitive neuroimaging and cognitive measures, among aging adults with memory loss. Participants attend a single study visit and undergo cognitive testing, brain imaging, and heart imaging. Identifying relations between cardiac integrity and brain aging may contribute to future prevention strategies for cognitive decline and dementia.
Caregiving Support & Education	CARE-Plus	This caregiver-based study is seeking to determine whether an educational intervention can reduce behavioral problems in patients with AD and improve caregivers' emotional well-being. It consists of a 5-week group intervention which offers 90-minute weekly sessions on AD, its symptoms, and tips for improving communication and interactions with the family member. It also focuses on family members' feelings about their own caregiving skills. The individual with AD is not involved in this study.
	Home Safety Education	This study compares two types of education to find out if they help caregivers to make home safety modifications. Eligible participants are persons with a diagnosis of AD or a related dementia and caregivers living with a person with AD or a related dementia. This study takes place at participants' homes, and at the end of the study (3 months for each participant), the caregiver is offered the alternative education format.
	PAIRS Program: Partnering Students with Early-Stage AD Patients	This program pairs first-year medical students with patients with early-stage AD and related disorders. The PAIRS program (1) seeks to educate the medical students about the care and support-related issues faced by patients with AD and (2) provides patients with the opportunity to informally interact with medical students. Student-patient pairs will meet monthly to participate in activities together throughout the academic year.
Genetics	MIRAGE: Multi-Institutional Research in Alzheimer's Genetic Epidemiology	This longstanding study evaluates the association between genetic (hereditary) and non-genetic risk factors for AD. The study is currently recruiting people with a diagnosis of probable AD who also have an unaffected sibling who would be willing to participate with them. The study is being conducted at multiple sites in the United States and abroad.
	REVEAL III: Risk Evaluation and Education for AD	This study is a multi-center, nationwide research project. The goal of REVEAL III is to provide healthy adults with genetic susceptibility testing and information about their chances to develop AD.

For more information, please contact the BU ADC Recruitment Coordinator, Erin Whalen, at 617-414-1078 or ewhalen@bu.edu

BU ADC Happenings

Welcome

The Boston University Alzheimer's Disease Center (BU ADC) welcomes our new postdoctoral fellows: **Dr. Ilona Kopitz** (geriatrics), **Dr. Brandon Gavett** (clinical neuropsychology), and **Laura Eggermont** (research neuropsychology).

The BU ADC is pleased to welcome new staff members: **Brian Gonzales**, HOPE study psychometrician; **Laura Byerly**, PAIRS program coordinator; and **Sabrina Poon**, research assistant.

We also extend a warm welcome to our new student trainees: **Shannan Farr** and **Kelsey Smith** from Simmons University, **Jackie Kelly** from Harvard University, and **Sita Yerramsetti** from Boston University.

Congratulations

The BU ADC would like to congratulate the recipients of the BU ADC Pilot Program Awards, including: **Dr. David Tate** for his project, "Cardiac integrity and white matter abnormalities in mild cognitive impairment" and **Dr. Peter Morin** for his project entitled, "Retromer and presenilin: Common endosomal functions in Alzheimer's disease." In addition, Dr. Morin is the recipient of a Veterans Affairs Merit Award for a project entitled, "The role of retromer proteins in endosomal APP processing."

Dr. Brandon Ally has received an NIH Clinical Research Loan Repayment Award, which is awarded to candidates who dedicate at least half of their professional time to research.

Mr. Alfred Davis, a member of the BU ADC Community Advisory Council and Director of Residence Services for the Boston Housing Authority, has been selected

as a 2007 Robert Wood Johnson Community Health Leader. This prestigious award was established in 1991 to recognize individuals who overcome challenging obstacles to improve the quality of healthcare in their local communities.

Dr. Angela Jefferson is the recipient of a Paul B. Beeson Career Development Award in Aging. This program fosters the independent research careers of clinically trained investigators whose research and leadership enhance the health and quality of aging adults. Approximately ten scholars are selected for the Beeson Program each year. Dr. Jefferson will use this 5-year award to study relations between cardiac integrity and abnormal brain aging.

Congratulations to **Dr. Benjamin Wolozin**, the recipient of the 2007 Memory Ride Grant from the Alzheimer's Association. This 3-year investigator-initiated research grant for \$240,000 will fund research of the interactions of LRRK2 with pathways linked to protein folding and degradation.

Goodbyes

Many thanks and best wishes to the BU ADC staff who have recently taken new positions: **Winston Chung**, former research assistant, has returned to Boston University Medical School; **Dr. Lee Ashendorf**, former neuropsychology post-doctoral fellow, has joined a South Shore private practice; and Susan Vanderhill, former research coordinator, is completing her PhD in clinical neuropsychology at the University of Victoria in British Columbia, Canada.

Thank you to our recent student trainees, **Lindsey Grace**, **Meghan Lembeck**, and **Brian Panichella**, and our recent pre-doctoral trainees, **Kevin Blankevoort** and **Karin Volkers**.

Greater Boston Memory Walk

The Memory Walk is the Alzheimer's Association's largest fundraising event. Walks take place annually in more than 600 communities nationwide. On Sunday, September 30th, the faculty, staff, participants, and friends of the Boston University Alzheimer's Disease Center (BU ADC) participated in the Greater Boston Area Memory Walk in Cambridge, Massachusetts.



Raising over \$20,000 for the Alzheimer's Association, the BU ADC team once again makes an impressive turnout!

Honorary and Memorial Contributions

The Boston University Alzheimer's Disease Center (BU ADC) welcomes honorary and memorial contributions. These gifts are an excellent way to pay tribute to a family member or friend while making a contribution to the advancement of research in the field of Alzheimer's disease.

In Memory of Sam Britt

Elinor Woron

In Memory of John Fleming

Natalie Fultz

In Memory of Loretta Jankowski

The Administrators of IS 93

In Memory of Joseph Latino

Employees of Wyman-Gordon Company

In Memory of Clifford Ohnemus

Lois Arnold

In Memory of Andrew F. Regan

Linda Johnson

In Memory of Richard S. Sexton

Barbara F. Freeman

In Honor of Hal and Charlotte Chefitz's 50th Wedding Anniversary

Amy Bass

Research Center Contact Information

If you have questions or comments about the BU ADC or this newsletter or if you wish to make a donation to support the BU ADC, please contact:

Catherine Pfau, MMHS
Administrative Manager, BU ADC
715 Albany Street, B-7800
Boston, MA 02118

Telephone: 1-888-458-BUAD
Email: buad@bu.edu

Check out our website at
www.bu.edu/alzresearch



Local middle school student, Cassie Laslie (third from the left), presented a check for \$3341 to the BU ADC, which she raised in honor of her late grandfather who had AD.

Alzheimer's Disease Center Leadership

The Boston University Alzheimer's Disease Center (BU ADC) is primarily supported through a grant from the National Institute on Aging. The BU ADC supports cutting-edge research and provides education and clinical care to families affected by AD. Its leadership is listed below, alphabetically by Center Core.

Neil Kowall, MD, *Center Director, Administrative Core Director, and Transgenic Mouse Core Co-Director*

Richard Fine, PhD, *Administrative Core Associate Director*

Robert Green, MD, MPH, *Clinical Core Director and Center Associate Director*

Robert Stern, PhD, *Clinical Core Associate Director*

Christine Chaisson, MPH, *Data Core Director*

Kathy Horvath, PhD, RN, *Education & Information Transfer Core Co-Director*

Angela Jefferson, PhD, *Education & Information Transfer Core Co-Director*

Ann McKee, MD, *Neuropathology Core Director*

Alpaslan Dedeoglu, MD, PhD, *Transgenic Mouse Core Co-Director*

The BU ADC Bulletin is published twice annually (**Dr. Angela Jefferson**, Editor; **Dr. Kathy Horvath**, Co-Editor; **Natasha Yemelyanova**, Editorial Assistant).



715 Albany Street, B-7800
Boston, MA 02118
tel: 1-888-458-BUAD

Clinic Information

The memory clinics affiliated with the BU ADC provide comprehensive care for adults with memory loss by providing assessment, treatment, and continued support at the following locations:

Alzheimer's Disease Clinical & Research Program (ADCRP)

ADCRP Clinic
Boston University
Medical Campus
Robinson Suite 7800
Boston, MA 02118
Telephone: (617) 638-7100

Boston University Neurology Associates (two locations)

Memory Assessment Clinic
Boston Medical Center
Doctor's Office Building, 7th Floor
Boston, MA 02118
Telephone: (617) 638-8456

Memory Assessment Clinic
1221 Main Street, Suite 401
Weymouth, MA 02190
Telephone: (781) 331-9944

Edith Nourse Rogers Memorial Veterans Hospital Geriatric Research, Education, & Clinical Center (GRECC, for veterans)

GRECC Dementia Management Clinic
200 Springs Road, GRECC (182B)
Bedford, MA 01730
Telephone: (781) 687-2701

GRECC Memory Diagnostic Clinic
200 Springs Road, GRECC (182B)
Bedford, MA 01730
Telephone: (781) 687-3240

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