The Importance of Research Participation

Alzheimer’s disease (AD) poses a major health threat to our aging population. More than 5.4 million Americans have AD, and this number is expected to increase to 7 million by 2030 and increase to 16 million by 2050. AD doesn’t just affect those adults 60 or older; a growing number of individuals age 60 and younger experience symptoms of younger onset AD. The national cost of caring for people with AD is about $183 billion every year. Luckily, research offers hope of prevention and an eventual cure for AD.

AD affects not just individual patients, but also their loved ones. Currently, an estimated 15 million caregivers in the U.S. provide 17 billion hours of unpaid care for individuals with dementia. Caregivers not only suffer emotionally but also physically, from stress-associated disorders and illness. Because of the toll of caregiving, dementia caregivers had $7.9 billion in additional health care costs in 2010. In short, there is an AD crisis that is growing in size and scope.

Research participation is one of the most important contributions anyone can make toward resolving the AD crisis. In the past 10 years, there have been major strides in understanding the cause of AD, developing more accurate methods of diagnosing AD and creating new treatments. Technological advances in the ability to diagnose and treat AD start in basic science laboratories, where it typically takes years to develop a procedure or medicine that can be studied in humans. One of the costs of this process, both in terms of money and time, is the recruitment of individuals.

A Lifetime of Service
Honoring Alzheimer’s disease advocate Richard H. Roye, Sr.

Richard Roye, Sr., who served the Boston University Alzheimer’s Disease Center (BU ADC) as a Community Action Council (CAC) member, passed away this summer at the age of 78. A longtime community advocate, Roye generously contributed his time, advice and strength of character to the BU ADC for more than 10 years.

Royer leaves behind a legacy of both compassion and action. He grew up in Boston, graduating from Roxbury Memorial High School and attending Boston State College before joining the U.S. Army. Upon earning his master of social work from the Boston University School of Social Work, he worked tirelessly to improve the living conditions of low-income and homeless people.

Royer launched his social work career at Norfolk House and Roxbury Neighborhood House, eventually becoming executive director of the West Medford Community Center. He later began a 35-year career with the Department of Veterans Affairs, where he created new programs, oversaw clinical groups and mentored countless social workers. Under his leadership, the Boston VA Homeless Program gained national recognition.

In retirement, Roye worked to secure housing and other necessities for homeless veterans. Notably, he secured the donation of a van that enabled more efficient transportation for the food pantry. He was an active member of the Black History Committee and choir at Twelfth Baptist Church, and he recently joined the Roslindale Baptist Church and sang in their choir.

As American Legion Post Commander at the William E. Carter Post #16, Roye started the annual Martin Luther King Jr. Memorial Breakfast and the 60-Plus Veterans Group.

As co-leader of the 60-Plus Veterans Group, he arranged for BU ADC faculty to present research and

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New Faculty Member

T he Boston University Alzheimer’s Disease Center (BU ADC) is pleased to welcome Thor Stein, MD, PhD as a new faculty member and Associate Director of the Neuropathology Core. Dr. Stein works at the Boston Veterans Affairs Medical Center, where he studied the role of chronic traumatic encephalopathy (CTE) in Alzheimer’s disease and amyotrophic lateral sclerosis. In addition, he contributes his skills as a neuropathologist to the BU ADC Brain Bank.

Dr. Stein completed his undergraduate and graduate degrees at the University of Wisconsin-Madison, where he studied neuroscience. As a graduate student, he researched the role of a novel neuroprotective pathway in a mouse model of Alzheimer disease. At Massachusetts General Hospital, Dr. Stein completed his residency in pathology and fellowship in neuropathology, working with Dr. Bradley Hyman and Dr. Teresa Gomez-Isla to investigate the role of chronic traumatic encephalopathy in individuals who had significant Alzheimer’s pathology, but had not been diagnosed with any dementia. Dr. Stein’s research focuses on understanding the neurodegenerative aspects of Alzheimer’s disease and how these aspects contribute to the development of the disease. His research is funded by a K08 grant from the National Institute on Aging, with the goal of advancing our understanding of the pathobiology of Alzheimer’s disease and developing new treatments.

Richard H. Logue, Jr., Photo courtesy of Tony Living of The Boston State Banner

BU ADC Launches New T32 Post-doctoral Program

B u the Boston University Alzheimer’s Disease Center (BU ADC) recently received a $1.48 million Ruth L. Kirschstein National Research Service Award Institutional Research Training Grant (T32) from the National Institutes of Health to offer a new post-doctoral fellowship program, Alzheimer’s Disease Translational Research Training. Translational research focuses on the interaction between basic scientific discoveries and their practical applications in order to improve human health. The translational research approach emphasizes coordination among basic researchers, who study disease at the cellular or molecular level, and clinical researchers, who focus on how disease affects patients. The new BU ADC fellowship program aims to address a growing need for well-trained Alzheimer’s disease (AD) researchers capable of facilitating their own translational studies. The program provides structured translational research post-doctoral training for both basic and clinical researchers, positioning them to make major contributions to the field of AD. Trainees will benefit from the BU ADC’s rich training resources, increasing their knowledge of a broad spectrum of AD fundamentals and participating in collaborative research projects with program faculty and other trainees.

“Our new T32 program will provide essential research and professional skills to a new generation of basic and clinical scientists interested in pursuing careers in AD research,” said Dr. Angela Giordani, investigator of the new T32 grant and Director of the BU ADC Education and Information Transfer Core. “Such training will enhance translational research efforts in AD and position these early career scientists to make major contributions to the field.”

New fellows will be selected for the program each year, and each fellow will receive funding from the program for up to three years. The first fellows, Dr. Katherine Younans and Dr. Katherine Gifford, have already started working on the T32. Younans received a doctoral degree in anatomy and cell biology from the University of Illinois at Chicago. She is working with Dr. Ben Wolozin to examine the effects of intraneuronal Abeta and stress granules on proteins on long-term potentiation, which measures the ability of neurons to form memories.

Dr. Katherine Younans

Dr. Katherine Gifford (left) and Dr. Katherine Younans

I am hoping to enhance my knowledge about the neuropathology underlying neurodegenerative disease progression, while also learning new techniques, such as electrophysiology,” Younans said. She also hopes to enhance her “understanding of the various overlapping mechanisms by which brain cells communicate and work together to prevent disease.”

Gifford earned her doctorate in clinical psychology from the Florida Institute of Technology. Her research at the BU ADC is focused on early identification of abnormal cognitive aging— in particular, mild cognitive impairment (MCI)— and refining the diagnostic paradigms for MCI to provide more accurate prognosis to patients and their families. She works with Dr. Jeffrey. Gifford said she’s excited about her work because “early identification of individuals at risk for abnormal cognitive changes within AD increases the possible efficacy of treatments for AD as new therapies emerge.”

The program funding is for five years and was awarded by the National Institute on Aging, which is part of the National Institutes of Health. The National Institute on Aging also funds the BU ADC research grant. While the current fellowship positions are filled, the BU ADC is releasing a request for applications for another T32 fellowship slot that will begin in summer or fall of 2012. For more information about the training program, contact Elizabeth Daube, BU ADC education programs manager: edabeue@bu.edu or 617-414-1077.

The first T32 fellows, Dr. Katherine Gifford (left) and Dr. Katherine Younans

contributed by Dr. Robert Stern, BU ADC Clinical Core Director and Professor of Neurology and Neurosurgery at BU School of Medicine

education, which inspired some 60-Plus Veterans Group members to join the BU ADC Health Outreach Program for the Elderly (HOPE) study. As president of the Elder Health Care Disparities Coalition, he oversaw the growth of the organization to almost three hundred members.

“Mr. Roye was an inspiration to us all. His dedication to seniors, the community and the people he served and cared about will not be forgotten,” said Dr. Nancy Emerson Lombardo, Adjunct Research Assistant Professor of Neurology. “Roye has inspired a great many people to care about others and demonstrated that one person can make a very big difference.”

BU ADC Grant Renewed Until 2016

T he Boston University Alzheimer’s Disease Center (BU ADC) is funded by a P30 research grant from the National Institute on Aging, and the center is pleased to announce that its grant was recently renewed for another five-year funding cycle. Founded in 1996, the center will celebrate its 20th anniversary during the upcoming cycle. The BU ADC is part of a national network of Alzheimer’s Disease Centers (ADCs) funded as part of a Congressional mandate initiated in 1984. This ADC network was designed to enhance progressive Alzheimer’s disease (AD) research in medical, behavioral and clinical science so that research would provide investigators access to resources to facilitate innovative AD research. The mission of the BU ADC is well aligned with the broader ADC network. The center seeks to conduct and facilitate cutting-edge AD research, enhance clinical care for AD patients and their families and provide education regarding AD to both professionals and lay audiences in the greater Boston area and beyond.

During the most recent funding competition, strong leadership, prolific research activities and novel programs made the BU ADC stand out. During the next funding cycle, the BU ADC will increase its research emphasis on better defining normal aging and the transition to mild cognitive impairment and the earliest stages of dementia, as well as enhancing the clinical and pathological understanding of some traumatic encephalopathy. The BU ADC will also continue its efforts to research and address the needs of diverse populations, including the African American community.

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Actively Recruiting Studies

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<thead>
<tr>
<th>Study Type</th>
<th>Study Title</th>
<th>Study Description</th>
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<tbody>
<tr>
<td>BU ADC Research Registry</td>
<td>Health Outreach Program for the Elderly (H0PE)</td>
<td>This longitudinal study examines age-related changes in memory and thinking. It serves as the Boston University Alzheimer’s Disease Center (BU ADC) research registry, where participants agree to be contacted about other BU ADC-approved studies. H0PE participants are encouraged to participate in the actively recruiting studies summarized below.</td>
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<tr>
<td>Caregiving Support</td>
<td>Health Pathways</td>
<td>This study looks at how caring for a person with dementia affects one’s physical and emotional health. Participants attend four weekly face-to-face visits where they will be asked questions about their health and about the person they care for, along with some lab work.</td>
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<tr>
<td>Early Detection</td>
<td>RETINA Study</td>
<td>This study uses routine ophthalmological tests to detect biomarkers that predict the onset of Alzheimer’s disease (AD). The study includes one visit to the Massachusetts Eye and Ear Infirmary. Participants must be 50 years of age or older and enrolled in the H0PE Study. Participants will need a study partner who can accompany them to study visits.</td>
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<tr>
<td>Education</td>
<td>PAIRS Program</td>
<td>This program pairs first-year Boston University medical students with patients who have early-stage AD. The program educates medical students about the care and support related issues faced by patients with AD, and provides patients with the opportunity to mentor students. Student-patient pairs meet monthly to participate in social activities throughout the academic year.</td>
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<tr>
<td>Evaluation of Daily Living</td>
<td>SAFE Drivers</td>
<td>This study aims to develop a brief, office-based evaluation of driving safety for older drivers that accurately predicts on-road driving performance. Two study visits involve office-based cognitive tests and an on-the-road driving evaluation conducted by a certified driving instructor. Study participation is open to adults 55-95 years of age who drive at least one time per week.</td>
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<tr>
<td>Memory &amp; Cognition</td>
<td>False Memory in AD</td>
<td>This study seeks to understand why patients with AD and other dementias frequently remember things that never happened. The goal of this study is to provide ways to reduce false memories in patients with dementia. Study participation is open to cognitively normal adults age 50 years or older and adults with AD age 65-85.</td>
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<tr>
<td>Vision &amp; Cognition</td>
<td>Neuroimaging</td>
<td>This study examines the relationship between vision and thinking abilities in normal aging and AD. Participants perform tests of vision, cognition and daily functions, and a free eye exam is included. Study participation is for adults age 55 or older.</td>
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<tr>
<td>Neuroimaging</td>
<td>Alzheimer’s Disease Neuroimaging Initiative (ADNI-2)</td>
<td>This study uses different kinds of imaging to determine whether imaging of the brain can help predict the onset of cognitive changes and monitor such changes. Researchers are looking for persons 55-90 years of age and who are in good general health but have memory problems or concerns.</td>
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<tr>
<td>Treatment</td>
<td>Bapineuzumab</td>
<td>This multi-center treatment trial will evaluate whether a new medication, Bapineuzumab, increases (ADNI-2) Initiative Disease Vision &amp; Memory &amp; Education Early Registry Research living of Daily living in AD Vitamin E Therapy Combination Supplements This multi-center clinical trial will evaluate the combination of memantine and Vitamin E in the treatment of mild to moderate AD. Memantine has been shown to improve function and cognition in late stages of AD, while Vitamin E has been found to delay the progression of AD. The study is open to veterans with a diagnosis of mild or moderate AD. Participants need a caregiver to accompany them to all visits.</td>
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BU ADC Happenings

Welcome
The Boston University Alzheimer’s Disease Center (BU ADC) would like to extend a warm welcome to new staff members: Elizabeth Daube, MSW, BU ADC Education Programs Manager; and Raymond Romano, Research Assistant to Dr. Angela Jefferson. The BU ADC would also like to welcome new Neuropsychology Post-doctoral Fellow Dr. Daniel Seichepine.

Congratulations
The BU ADC would like to congratulate the following faculty members on their recent promotions: Dr. Ann McKee, Professor of Neurology and Pathology and Laboratory Medicine; Dr. Sudha Seshadri, Professor of Neurology; Dr. Robert Stern, Professor of Neurology and Neurosurgery.

The BU ADC would like to congratulate Dr. Angela Jefferson for her recent promotion to Associate Director of the BU ADC. Also, Dr. Jefferson was recently awarded a $1.48 million five-year grant from the National Institute on Aging for the Ruth L. Kirschstein National Research Service Award Institutional Research Training Grant (T32). Details on the new post-doctoral fellowship program, Alzheimer’s Disease Translational Research Training, are provided on page 2.

Dr. Katherine Gifford is a recent recipient of a National Alzheimer’s Coordinating Center Junior Investigator Award. Her study, “Subjective memory complaint and cognitive aging,” will provide a better understanding of how patient and informant memory complaint predicts a decline in memory and thinking abilities over time.

Dr. Lee Goldstein was recently awarded a $1.35 million three-year grant from the National Aeronautics and Space Administration. The study, “Effects of space radiation on hippocampal-dependent learning and neuropsychology in wild-type and Alzheimer’s disease transgenic mice,” will use mice to examine the long-term impact of space radiation on learning and memory and how this impact may accelerate Alzheimer’s disease (AD). The team will also evaluate a new, non-invasive, laser-based eye scanner that Dr. Goldstein and his group designed to detect molecular changes in the lens of the eye induced by AD pathology.

“At the Crossroads,” a support group leaders kit on AD, dementia and driving developed collaboratively by the BU ADC, Hartford Financial Services Group, Inc. and the Massachusetts Institute of Technology AgeLab, was honored by Today’s Caregiver magazine with the Caregiver Friendly Award. Dr. Robert Stern served as project investigator for the project, which developed and evaluated a four-session course about dementia and driving for caregivers.

Goodbyes
Thank you and best of luck to former BU ADC faculty member Dr. Brandon Gawert, who accepted a position in the Psychology Department at the University of Colorado, Colorado Springs. Dr. Gawert completed a two-year post-doctoral fellowship at the BU ADC and joined the Boston University School of Medicine faculty as an Instructor in 2009.

Many thanks and best wishes to BU ADC staff members who have recently left: Amanda Gentile, MRes, Research Coordinator of the Heart & Brain Aging Study, who has taken a position at Brigham & Women’s Hospital; Fareesa Islam, MPH, Research Assistant to Dr. Angela Jefferson, who completed a master’s degree at the Boston University School of Public Health and has taken a position at the Children’s Hospital Boston; Carol Rossi, RN, BSN, Clinical Research Manager, who is attending the Nurse Practitioner Program at Northeastern University; and Silvia Seranno, MPH, Outreach & Recruitment Coordinator, who has taken a position with the Boston Public Health Commission.

Thank you and best wishes to our recent student trainee: Pooja Parikh, HOPE Study Intern, who completed a master’s degree at Boston University and will be working at the Boston Veterans Affairs Medical Center and Boston University Medical Center.

New Handbook on Alzheimer’s
A new book co-edited by Drs. Andrew Budson and Neil Kowall, “The Handbook of Alzheimer’s Disease and Other Dementias,” was recently published by Wiley-Blackwell. The book provides a comprehensive review of Alzheimer’s disease (AD) and other dementias from both basic and clinical neuroscience perspectives.

The book features both a broad introduction to AD and an up-to-date review of important scientific advances, making it a useful text for a variety of professional health care professionals, including physicians, psychologists, scientists, graduate students, nurses and social workers. Paper and electronic copies are available for purchase at Amazon.com.

Alzheimer’s Disease Research Day
The Boston University Alzheimer’s Disease Center (BU ADC), Department of Biochemistry, Department of Pharmacology and the Graduate Program for Neuroscience hosted the 9th annual Boston University Alzheimer’s Disease Research Day in October. Dr. Junying Yuan, professor of cell biology at Harvard Medical School, provided the keynote presentation on “Global mechanisms that regulate autophagy and the relevance to Alzheimer’s Disease.” BU ADC faculty member Dr. Carmela Abraham served as faculty host for the event, which included an interactive poster session for faculty and students to share their research.

Honorary and Memorial Contributions
The Boston University Alzheimer’s Disease Center (BU ADC) is involved in a variety of clinical, research and educational activities. Often, research study participants, families or community leaders wish to contribute to the fight against Alzheimer’s disease (AD), and these private donations are important to advancing the BU ADC’s mission. The BU ADC welcomes honorary and memorial donations, as 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 AD. Please call Harriet Kornfeld at 617-638-5676 or visit us online at www.bu.edu/adresearch if you would like to make a donation.

The BU ADC would like to recognize the following private donors for their greatly appreciated contributions:

In memory of Cynthia Bond
Phyllis Blumsack

In memory of Doreen A. Croke
Esther Aghai

In memory of Edith Loverme
Norma Jones

In memory of Dorothy A. Crowe
Jeff and Susan Allen

In memory of Elizabeth Newton
Patrick Boles

In memory of Elizabeth Vaas
Stephen and Paula Snyder

In memory of Lilian Winograd
Gail Spatz

The Handbook of Alzheimer’s Disease and Other Dementias
Andrew E. Budson and Neil W. Kowall

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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 individuals and families affected by Alzheimer’s disease. Its leadership is listed below, alphabetically by Center Core.

Neil Kowall, MD, Center Director and Administrative Core Director
Andrew Budson, MD, Center Associate Director of Research
Robert Stern, PhD, Clinical Core Director
Christine Chaisson, MPH, Data Management & Statistics Core Director
Angela Jefferson, PhD, Center Associate Director and Education & Information Transfer Core Director
Ann McKee, MD, Neuropathology Core Director
Thor Stein, MD, Neuropathology Core Associate Director

The BU ADC Bulletin is published twice annually (Dr. Angela Jefferson, Editor; Elizabeth Daube, Assistant Editor).