Busse Awards Presented

The Ewald W. Busse Research Awards were presented at the 20th IAGG World Congress of Gerontology and Geriatrics in Seoul, Korea, June 25, 2013 and honored two individuals for their work. These awards are presented every four years during the World Congress in recognition of significant and continuing contributions to aging research. One award recognizes a scientist from the Social/Behavioral Sciences; the other, a scientist from the Biomedical Sciences. These awards are supported from an endowment made by Gerontology International in honor of Ewald W. Busse, M.D., past president of the International Association of Gerontology and founding director of the Duke Aging Center. This endowment is administered by the Duke University Center for the Study of Aging and Human Development and the recipients are selected by a jury of scientists chaired by Aging Center Director, Harvey Jay Cohen, MD.

This year’s awards were presented by Dr. Cohen to Professor Becca R. Levy, PhD, Director of the Social and Behavioral Science Division and an Associate Professor at Yale University School of Public Health for her work in the Social and Behavioral Sciences, with her lecture titled “Aging Self-Stereotypes: Obstacle or Pathway to Health?”; and to Professor Thomas T. Perls, MD, MPH, Professor of Medicine and Director of the New England Centenarian Study, of Boston University School of Medicine, for his work in the Biomedical Sciences and his lecture was titled “Human Exceptional Longevity”.

In creating the awards, the Board of Directors of Gerontology International recognized Dr. Busse for his outstanding contributions to gerontological research. Dr. Busse, J. P. Gibbons Professor Emeritus of Psychiatry, Dean Emeritus of Medical and Allied Health Education, was founding Director of the Duke Center for the Study of Aging and Human Development (1957-70), and was chairman of the Duke Department of Psychiatry from 1953-1974.

Dr. Levy’s research explores psychosocial factors that influence elders’ cognitive and physical functioning, as well as their longevity. She is credited with creating a field of study that focuses on how positive and negative age stereotypes, which are assimilated from the culture, can have beneficial...
Brain Imaging Can Detect Early Alzheimer’s Disease*

Recent research has found that brain imaging can detect early Alzheimer’s Disease (AD) in order to identify individuals early in the disease course as, so that the disease effects can be stopped before irreversible damage can occur. The challenge of diagnosing AD early is that the behavioral symptoms are similar to benign changes in memory that occur with aging.

Previous attempts to identify differences in brain structure or function in the Mild Cognitive Impairment stage (MCI) have not demonstrated high enough reliability to effectively discriminate MCI that go on to the dementia stage from those cases that are due to other disorders such as stroke of depression.

One important tool for seeing patterns in the brain is Multiple Resonance Imaging (MRI). This uses a magnetic field and radio waves to make pictures of structure inside the body, including the brain. This can also be used to measure changes in brain activity over time, which is referred to as functional MRI (fMRI).

Another tool is a special MRI technique called diffusion-tensor imaging (DTI). This is used to visualize the connections between brain areas by mapping the health of the nerve pathways. Many previous studies have used either fMRI or DTI in attempts to classify MCI patients as early AD patients, without finding sufficiently high sensitivity and specificity.

Current research at the Joseph and Kathleen Bryan Alzheimer’s Disease Research Center and the UNC IDA laboratory has found that combining these two tools can result in 100% sensitivity as well as 94.1% specificity; meaning that the approach classified all individuals with early AD correctly, with very few instances of falsely classifying an individual with normal cognition as having AD.

This study demonstrates that a combination of structural and functional brain imaging approaches can yield a very high ability to detect early AD correctly.

Family history of Alzheimer’s associated with brain plaques

Close family members of people with Alzheimer’s disease are more than twice as likely as those without a family history to develop silent buildup of brain plaques associated with Alzheimer’s disease, according to P. Murali Doraiswamy, MD, professor of psychiatry and medicine at the Center for the Study of Aging.

The study, published online in the journal PLOS ONE on April 17, 2013, confirms earlier findings on a known genetic variation that increases one’s risk for Alzheimer’s, and raises new questions about other genetic factors involved in the disease that have yet to be identified.

More than 95 percent of individuals with Alzheimer’s disease have the late-onset type, which occurs after the age of 65. Research has shown that Alzheimer’s begins years to decades before it is diagnosed, with changes to the brain measurable through a variety of tests.

Family history is a known risk factor and predictor of late-onset Alzheimer’s disease, and studies suggest a two- to four-fold greater risk for Alzheimer’s in individuals with a mother, father, brother or sister who develop the disease. These first-degree relatives share roughly 50 percent of their genes with another member of their family. Common genetic variations, including changes to the APOE gene, account for around 50 percent of the heritability of Alzheimer’s, but the disease’s other genetic roots are still unexplained.

“In this study, we sought to understand whether simply having a positive family history, in otherwise normal or mildly forgetful people, was enough to trigger silent buildup of Alzheimer’s plaques and shrinkage of memory centers,” said senior author P. Murali Doraiswamy.

Duke neuroscience research trainee Erika J. Lampert, Doraiswamy and colleagues analyzed data from 257 adults, ages 55 to 89, both cognitively healthy and with varying levels of impairment. The participants were part of the Alzheimer’s disease Neuroimaging Initiative, a national study working to define the progression of Alzheimer’s through biomarkers.

The researchers looked at participants’ age, gender and family history of the disease, with a positive family history defined as having a parent or sibling with Alzheimer’s. This information was compared with cognitive assessments and other biological tests. As expected, the researchers found that a variation in the APOE gene associated with a greater risk and earlier onset of Alzheimer’s was overrepresented in participants with a family history of the disease. However, other biological differences were also seen in those with a family history, suggesting that unidentified genetic factors may influence the disease’s development before the onset of dementia.

Nearly half of all healthy people with a positive family history would have met the criteria for preclinical Alzheimer’s disease based on measurements of their cerebrospinal fluid, but only about 20 percent of those without a family history would have met such criteria.

“We already knew that family history increases one’s risk for developing Alzheimer’s, but we now are showing that people with a positive family history may also have higher levels of Alzheimer’s pathology earlier, which could be a reason why they experience a faster cognitive decline than those without.
Liza Genao, MD

Dr. Genao’s long term research career goal is to improve the quality of life of older adults with end-stage lung disease (ESLD). These adults are burdened with a disabling shortness of breath that results from a combination of age-related changes and co-existent chronic diseases. They have a different clinical presentation and response to treatment compared to their younger counterparts. Current treatment options do not stop disease progression, minimally impact symptoms, and have challenges to which older adults are particularly vulnerable.

Dr. Genao’s research aims to understand the interaction of aging and co-existent diseases on the health care outcomes of older adults with ESLD. Dr. Genao’s first area of focus has been lung transplantation (LT) as the only curative option for older adults with ESLD. In 2005, the system for lung allocation changed in the United States, resulting in a dramatic increase in the number of adults age 65 and older undergoing LT each year (81 in 2004 and 480 in 2011). To determine the impact of LT on functional status, Dr. Genao conducted a secondary data analysis of the United Network for Organ Sharing clinical registry on all adults receiving a LT between May 2009 and December 2012.

Comparing the functional status trajectories of recipients younger and older than 65 at transplantation, she found that for all recipients who survived to year-one post-LT, functional status improved compared to their level of baseline function. Thereafter, younger and older LT recipients had comparable rates of functional decline that rarely reached the point of significant disability (requiring assistance with self-care) at 4 years post-LT. She concluded that LT had a positive and durable effect in function for both older and younger recipients.

These results are encouraging, but the majority of older adults with ESLD do not meet the stringent but necessary criteria to ensure long-term safety and benefit from this invasive procedure. Dr. Genao’s next area of focus will be pulmonary rehabilitation (PR), which is a safe and effective treatment alternative for older adults with ESLD who are found not suitable for LT. The evidence is strong for the efficacy of PR in improving symptoms, function, and quality of life, and reducing healthcare utilization. This multidisciplinary intervention improves quality of life by targeting many factors that relate to the symptoms and disability seen in older adults with ESLDs.

In 2010, Medicare began to reimburse PR for all beneficiaries with Chronic Obstructive Lung Disease. In the next few years, Dr. Genao plans to study the barriers and facilitators in the use of PR by these patients and how it impacts their healthcare utilization.
This is what my parents told me and encouraged me to stay in the sun for hours (resulting in a lot of sunburn). This belief is rapidly being replaced by warnings about the dangers of over-exposure to sunlight. One of the primary dangers is actinic keratosis, or “sunspots,” which are actually lesions on the skin caused by exposure to ultraviolet rays. These lesions tend to harden and peel and then harden again. They are considered pre-cancerous because they may develop into skin cancers.

They can be removed in various ways, but prevention by using sun blockers and covering up is “worth a pound of cure.” However it is true that a “moderate” amount of sunshine may be beneficial by creating Vitamin D in the skin. The danger for light-skinned people (blonds and red-heads) is that any exposure over a half-hour or so may be dangerous. Furthermore, if you already have actinic keratosis, even a few minutes exposure to the sun is likely to make them worse. It is safer to get your Vitamin D from enriched milk and/or pills.

Many dermatologists now say, “A healthy tan is an oxymoron.”

The US News and World Report ranked the Duke Geriatrics Division as the fourth best in the nation this year.

The magazine’s methodology is based on two types of data: “expert opinions about program excellence and statistical indicators that measure the quality of a school’s faculty, research, and students.” The magazine said its data came from surveys of “more than 1,250 programs and over 13,000 academic and professionals conducted during the fall of 2012 and early 2013.
The recently released National Elder Index Report shows that:

- The average Social Security benefit for elders in North Carolina does not cover their basic expenses.
- Housing costs are the greatest expense for most NC elders, followed by health care expenses.
- NC Elders cannot meet their basic expenses without personal savings, pension income, and/or government supports.

The Elder Index is a new tool for use by policy makers, older adults, family caregivers, service providers, aging advocates, and the public at large. Developed by the Gerontology Institute at the University of Massachusetts Boston and Wider Opportunities for Women (WOW), the Elder Index is a measure of income that older adults require to maintain their independence in the community and meet their daily costs of living, including affordable and appropriate housing and health care.

The authors of the Report hope that the release of these statistics will make people more aware of the importance of Social Security benefits and also the need to supplement it with additional income.

* Based on “National Elder Index Report Released” by the Gerontology Institute at the University of Mass., Boston, Mass. (Paper #75, 2012)
Faculty & Students Present Research at AGS

The following faculty and students presented the results of their research at the recent American Geriatrics Society meeting in Grapevine, TX:

C. Colón-Emeric, E. McConnell, S. Pinheiro, K. Corazzini, K. Porter, and R. Anderson presented a paper on “CONNECT for Falls Prevention”. They concluded that CONNECT improves measures of staff communication in community, but not in VA nursing homes.

C. Colon-Emeric also presented a paper on Restarting the Cycle: Predictors of Additional Acute Care Use after Nursing Home Discharge. She concluded that interventions to support patients and their family caregivers as they transition from SNFs to home may be needed to prevent suffering, unnecessary acute care use, and fiscal waste.

SN Hastings, R Sloane, M Morey, H Hoenig, and L Jugan presented a paper on STRIDE: Assisted Early Mobility for Hospitalized Older Veterans. They concluded that STRIDE is a promising interdisciplinary approach to promoting mobility and improving outcomes among hospitalized older adults.

S.R. McDonald, M.E. Lidsky, C.M. Poer, M. Yanamadala, H.E. Whitson, M.T. Heflin, H.K. White, J.K.M. Thacker, and S.A. Lagoo presented a poster on A collaborative care model for peri-operative care of older adults. They concluded that the database for this model will provide information about quality of care and patient outcomes and help refine strategies for care of the older surgical patient.

J. Pavon, Y. Zhao, E. McConnell, B. Powers, and S. N. Hastings presented a poster on Identifying Risk of Readmission in Hospitalized Elders through Inpatient Medication Exposure. They concluded that incorporating medication data from electronic hospital records may improve the performance of hospital readmission prediction models.

I Am P. Resurreccion, Thomas O. Dalton, Kimberly Johnson, and Gwendolen Buhr presented a poster on Reduction of Antipsychotic Medication Use to Treat Behavioral and Psychological Symptoms of Dementia. They concluded that an interdisciplinary approach with clearly defined roles for each team was associated with a decrease in the use of antipsychotic medications for BPSD in our nursing home population by more than 50% over 6 months.

H. E. Whitson, K. Johnson, R. Sloane, C. Cigolle, S. Hastings presented a poster on COMORBIDITY CLASSES PREDICT ACUTE CARE USE AND READMISSION. They concluded that although seniors with highest comorbidity burden were the most frequent users of acute care, 30-day readmission rates were similarly high across comorbidity classes.

Heather Whitson won an award for Outstanding Junior Investigator of the Year. Congratulations!

The following led workshops or other conferences.

C. Colon-Emeric led a workshop on “Pills and Ills: Methodologic Issues in Pharmacological Research.”

Heather Whitson and Mitch Heflin led a workshop on “Leadership Skills Boot Camp.”

Heather Whitson and Susan Hastings led a workshop on “Tips for a Successful Career Development Award Application.”

Susan Hastings also led a workshop on “A Longitudinal Senior Faculty and Peer Mentoring Program for Junior Investigators and Educators”.

Kenneth Schmader and Heather Whitson led a workshop on “Passion to Policy: Translating research findings into policy change.”
Welcome New Duke Geriatric Training Fellows

Shiv S. Khosla, M.B.Ch.B.
Dr. Khosla is originally from Canada and attended the Royal College of Surgeons in Ireland to receive his MBChB degree. He is his third year at Baystate Medical Center Internal Medicine Residency Program, in Springfield, MA. When not studying Shiv enjoys reading fiction, golfing, running and lifting weights. He also plays the tabla, a classical Indian drum.

Claudia L. Nassaralla, MD, PhD
Dr. Nassaralla is a native of Minas Gerais, Brazil and has received a Doctor of Philosophy from the Carnegie Mellon University in Pittsburgh, PA. Dr. Nassaralla also attended the College of Human Medicine at Michigan State where she received her MD, followed by her residency in Internal Medicine from the Mayo Graduate School of Medicine in Rochester, MN. More recently she has worked in a federal medical center in Rochester, MN. Claudia is also Board Certified in Internal Medicine and Hospice and Palliative Medicine.

Sara Sambandham, MD
Dr. Sambandham is originally from India but currently lives just outside of Atlanta, GA where she works for Kaiser Permanente. Her patients there affectionately call her “Doctor Sam”. Dr. Sambandham attended St. George’s University in Grenada where she received her MD followed by her residency at the Albany Medical Center, in Albany, NY. When not working Sara likes running; she is even training for a 10K this year; as well as hiking and volunteering at local Health Fairs within the Indian community.

Jill Waters, MD
Dr. Waters is a native of Texas and currently already resides here in Durham, NC. Dr. Waters received her MD from the University of Texas School of Medicine at San Antonio, Texas. She is just finishing up her residency in Family Medicine at the University of North Carolina in Chapel Hill. When not studying Jill likes traveling; playing tennis; reading novels; watching sports; spending time with friends, family, and church community.
Busse Awards Presented

and adverse effects, respectively, on the health of older individuals.

Dr. Perls and his multidisciplinary group of colleagues have found that centenarians are increasingly homogeneous with older and older ages and more likely to have discoverable etiologic factors in common. Beyond the age of 107 years, the centenarians appear to prove Jim Fries' “Compression of Morbidity” hypothesis. Whereas genetic variation appears to explain approximately 30% of the variation in how old and how well people age up through their late eighties, the genetic component, composed of many common and rare genetic variants becomes increasingly important with older and older ages of survival, particularly beyond the age of 105 years.

Busse Award Winners Announced

Professor Becca R. Levy, PhD, and Professor Thomas T. Perls, MD, PhD, are the winners of the 2013 Ewald W. Busse Awards. The awards were announced at a reception on June 25 at the 20th IAGG World Congress of Gerontology and Geriatrics held in Seoul, Korea. Each winner presented a lecture as follows.

Becca R. Levy, PhD
Professor
Yale School of Public Health
Title of Lecture: Aging Self-Stereotypes: Obstacle or Pathway to Health?

Thomas T. Perls, MD, MPH
Professor of Medicine and Geriatrics
Boston University of Medicine and Boston Medical Center
Title of Lecture: Human Exceptional Longevity
August 20–21
“Aging and the immune system”, satellite of ICI2013.
Milan, Italy. Contact: dfrasca@med.miami.edu,
www.ICI2013.org/s_meetings/

September 11–13:
International Conference on Age-Friendly Cities. Quebec City, CN. Contact: genevieve.germain@inspg.qc.ca or
www.afc2113.ca

September 17–18
“Become an EPEC – EM Trainer Conference.” Golden,
Colorado. Contact: Veronica Roman info@epec.net

November 20–24
“Optimal Aging through Research” Annual Scientific Meeting of the Gerontological Society of America in New Orleans, LA.

February 27–March 2, 2014