

AGING EXCHANGE

Tracking the Way We Age

1965 1975 1985 1995 2005 2015 2025 2035 2045
1970 1980 1990 2000 2010 2020 2030 2040
CALC
Center on Aging and the Life Course
Optimal Aging - For Life

Spring 2014

Environmental Impact on Brain Aging: Scientist Studies How Toxins Accelerate Neurodegeneration

Jason Cannon is on a mission to identify links between chemical exposures in the environment and the degeneration of the neurological system. The health of neurons is critical to optimal aging, but Cannon has found that some chemical exposures compromise the aging process by dysregulating neuronal structure and function.

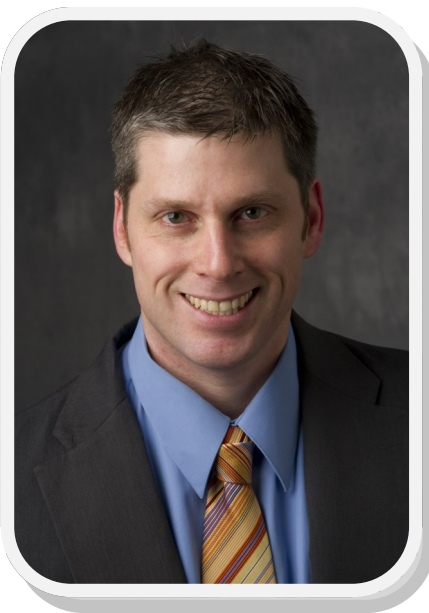
His motivation for this line of research is based on the fact that such neurodegeneration is a key factor in the development of several diseases commonly seen in middle and later life, including Alzheimer's, Parkinson's, and ALS (amyotrophic lateral sclerosis or Lou Gehrig's).

It is estimated that about 7 million Americans suffer from one of these three diseases, which would equate to the total population of Indiana.

Cannon is part of a scientific community of neurotoxicologists who study how synthetic and natural chemical exposures adversely impact the neurological system.

Dr. Cannon is one of two new CALC Faculty Associates from Purdue's School of Health Sciences. The other, Dr. Jennifer Freeman, is profiled on page 6.

In a major review essay in *Toxicological Sciences*, Cannon and J. Timothy Greenamyre, examined the role of neurotoxicant environmental exposures in selected major neurodegenerative diseases.



*Jason Cannon, PhD, Assistant Professor of
Health Sciences and Toxicology*

Historically, scientists have associated brain abnormalities with neurological disorders. Two major discoveries were revealed in 1907. First, Oskar Fischer described plaque

formation associated with senile dementia. In the same year, Aloysius (Alois) Alzheimer reported the presence of neurofibrillary tangles in brain neurons of persons with dementia. About a decade later, Konstantin Tretiakoff discovered that the tremors and rigidity experienced by Parkinson's disease patients were associated with cell loss in a specific region of the brain (substantia nigra).

These discoveries spurred interest in the neurological basis of these and other conditions and raised the question of whether environmental exposures play a role in the development of these brain abnormalities. It also led to the development of a category of maladies known as neurodegenerative diseases.

Some of these neurodegenerative diseases are rare and are caused by genetic factors. Those diseases not stemming from inherited factors are caused by unknown factors encompassing environmental exposures. A great majority of neurodegenerative diseases result from a combination of genetic and environmental factors.

(continued on page 2)

Accumulated Exposures and Brain Aging

The human central nervous system is very sensitive to neurotoxin exposure. This sensitivity is traced to the highly unique features of the mammalian CNS including: the massive energy need for cellular function, limited ability to replace lost cells, and the release of chemical signals across the extracellular space.

The CNS also has a high lipid content which is vital to myelination and neurotransmission. A common feature of neurodegeneration is lipid peroxidation (oxidative degradation of lipids), which enables neurotoxins to alter neuron function.

Another distinctive feature of the human CNS is the diversity of cell types. In the substantia nigra, dopaminergic neurons are especially vulnerable to oxidative stress because of the anatomical, metabolic, and specific signaling properties.

Neurotoxins compromise brain functioning in multiple ways, including the loss of brain capillaries and alterations in the resting cerebral blood flow.

A pesticide, rotenone, is classified as moderately hazardous by the World Health Organization. Recent research shows that rats injected with rotenone develop symptoms similar to Parkinson's disease. The likely path is through protein aggregation (α -synuclein).

Other research points to toxins such as rotenone leading to mitochondrial dysfunction, which raises the risk of neurodegeneration.

Understanding the unique features of the CNS and the pathological processes of neurotoxins is helping scientists such as Cannon to understand the role played by neurotoxicants in brain health.

As we age, the risk of developing neurodegenerative diseases increases. Reducing exposure to



environmental toxins, however, is one way to prevent the development these and other diseases.

One-time exposure to these toxins may be harmful, but repeated exposure raises substantial health risks. Cannon recommends taking precautionary measures to reduce personal exposure to neurotoxins and working for environmental policies that benefit all citizens, both in the USA and abroad.

Source for additional information:

Cannon, J. R., & Greenamyre, J. T. (2011). The role of environmental exposures in neurodegeneration and neurodegenerative diseases. *Toxicological Sciences*, 124, 225-250.

Common Neurodegenerative Diseases and Their Causes

Alzheimer's Disease (AD) is the most common neurodegenerative disease, afflicting more than 5 million Americans. By 2050, it is projected that 1 of 85 people in the world will have AD. Alzheimer's is commonly perceived to be a disease of aging with most diagnoses occurring in people aged 65 years and older. Metals, including aluminum, zinc, copper, and lead, have been linked to inducing A β aggregation causing neurodegeneration to the brain, which serves as our metal ion concentration regulator.

Parkinson's Disease (PD), the second most common neurodegenerative disease. About 1 million Americans have PD. Risk factors include exposure to pesticides (often seen in rural residents who consume well water), metals, and solvents. Miners and welders are at particular risk for PD by accumulating large amounts of manganese in the body.

Amyotrophic Lateral Sclerosis (ALS) is characterized by degeneration of lower motor neurons in the brainstem and ventral horn of the spinal cord. More than 30,000 Americans have ALS. Links to environmental exposures are not well established, but some scientists contend that exposures to lead, mercury, and pesticides are risk factors.

Suitor and Gilligan Recognized for Research Excellence

The Center on Aging and the Life Course at Purdue University named **J. Jill Suitor** and **Megan M. Gilligan** co-winners of the 2013 Research Excellence Award.

Suitor, who is Professor of Sociology and Faculty Associate of the Center, is widely known for her research on the aging family, including topics such as favorite children, ambivalence, and how families communicate with nursing home personnel. The author of over 70 refereed-journal articles, Suitor is a fellow the Gerontological Society of America and the Secretary-Treasurer of the Section on Aging and the Life Course of the American Sociological Association.

"Jill Suitor has excelled in research since joining Purdue in 2004," said Ken Ferraro, Director of the Center on Aging and the Life Course. "She has been highly productive as a scholar, publishing her work in some of the field's top journals. She received multiple large grants from the National Institute on Aging, which have led to important discoveries and supported multiple graduate students."

Megan Gilligan, the co-winner and one of those former graduate students, is now Assistant Professor of Human Development and Family Studies at Iowa State University. According to Ferraro, "Megan has a passion for research on the aging family, especially intergenerational relations and adult sibling relationships. She distinguished herself as one of our top students and has an exceptional record of scholarship."



From left to right: Megan M. Gilligan and J. Jill Suitor co-winners of the 2013 Research Excellence Award, along with Kenneth Ferraro, Distinguished Professor of Sociology and Director of CALC.

Photo Credit: Lisa Stein

By naming Suitor and Gilligan co-winners, the Center also honored the collaboration. "Jill and Megan are an exceptional research team," said David Waters, Associate Director of the Center. "We simultaneously honor the research—the scientific discoveries—but also a very fruitful collaboration." Added Ferraro, "each has a distinguished record of research; together, they have provided critical insights into family dynamics in later life."

Steering Committee, 2013-2014

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Brittney Muir

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Jill Suitor

Professor of Sociology

Social Influences on Health Lifestyle Choices in Later Life:

Aging Families and Health Symposium



Deborah Carr as she explains family relations affecting end-of-life health care planning.

Photo Credit: Lisa Stein

The Center on Aging and the Life Course faculty and friends gathered for the annual Fall Symposium to explore how social influences affect health lifestyle choices later in life. On September 20th at Purdue University, three leading scholars—Deborah Carr, Karen Hooker, and Alex Zautra—graced the Purdue campus with their presence and knowledge of how social influences shape later life.

The symposium was co-sponsored by the Center for Families and the Purdue University Retirees Association.

Deborah Carr, PhD, Professor and Chair in the Department of Sociology at Rutgers University, challenged the idea that we are “born alone and die alone.” Her research examined the intricate role that family relations play in end-of-life health care preparations. She finds that the majority of people, if they had their way, prefer to be in the comfort of their own homes at the end of life rather than a health care facility or hospital. Yet, research shows that the vast majority of people (up to 75% of Americans), die in the hospital setting surrounded by family members.

Carr proposed the idea of practicing patient-centered care. Patient-centered care would make care plans to be family-based, therefore making the patient only one part of the health care plan equation. Professor Carr left us with the thought that it is not the actual event of death that is most important to the patient's overall well-being and state of happiness near the end of life. Rather, it is the process of dying that patients find most crucial to their care and departure.

Carr also noted that many people procrastinate with respect to making a living will or durable power of attorney for health care. She urged audience members not only to talk with family members about their preferences but to also do the legal work to safeguard those preferences.

Karen Hooker, Ph.D., Professor and Director of Oregon State Center for Healthy Aging Research, elucidated how families shape the rhythms of daily life, including health care plans. Hooker's research regarding self-regulation of health highlights the role of planning.

She finds that goals, even if delayed by family needs or events, help people manage health promotion efforts related to diet, exercising, and stress management. Moreover, communicating one's health goals to family members and/or close personal relationships aids goal achievement: health promotion is a social process.



Karen Hooker emphasizes the importance of planning and self-regulation of health goals.

Photo Credit: Lisa Stein

People who have others supporting them in pursuit of their health goals are more effective in reaching the desired end.

The Arizona State University Foundation Professor of Clinical Psychology, **Alex Zautra**, PhD, conveyed information about social intelligence training and how it can enhance the well-being of older adults. Social intelligence refers to the ability to form meaningful relationships with others and effectively negotiate complex social relationships.

Research reveals that social intelligence helps people interact more effectively with health care providers and caregivers. This may occur in health promotion, primary care, or long-term care. Zautra explained that social intelligence interventions also give health care professionals a greater sense of direction in how to develop humanistic and meaningful relations between patients and staff in long term facilities.

Zautra challenged the notion that resilience is largely an attribute of the individual. Instead, he finds that resilience is socially developed. Social intelligence encourages the development of resilience, enabling patients to recover more quickly from illness episodes and sustain daily activities.

At the conclusion of the symposium, Ken Ferraro, Director of CALC, conferred the Research Excellence Award on Dr. Jill Suitor and Dr. Megan Gilligan, recognizing their collaboration to advance our understanding of intergenerational family relationships.

The day was capped with a reception and poster session; graduate students displayed projects that were



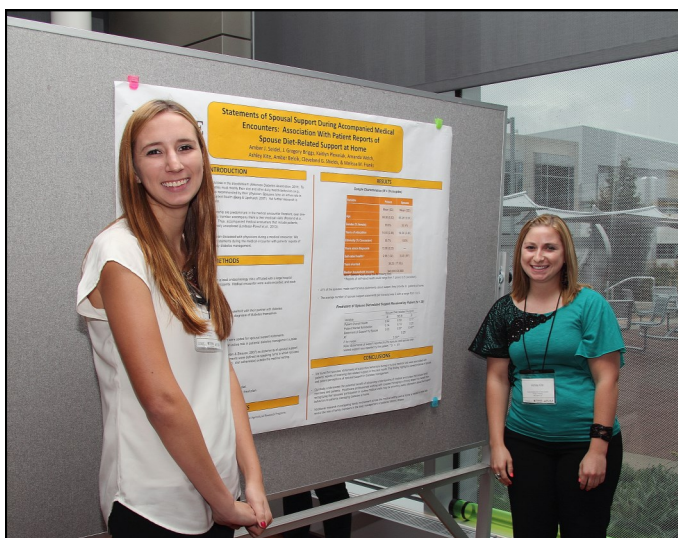
Alex Zautra conveyed the power of social intelligence on health.

Photo Credit: Lisa Stein

enjoyed and discussed by visitors. Topics ranged from sensorimotor control during walking to the use of the Geriatric Medicine Game on health professional students' empathy.

The Center on Aging and the Life Course appreciates the support of the Purdue University Retirees Association, Center for Families, and the Department of Human Development and Family Studies. In addition, a special thank you is given to Lisa Stein for photographing the symposium.

For further information or to access video recordings of the proceeding from the Symposium, please visit YouTube channel on the CALC website (www.purdue.edu/aging).



Top left and bottom right- Graduate students and visitors enjoying poster displays after the symposium.

Photo Credit: Lisa Stein

It would be difficult to exaggerate the degree to which we are influenced by those we influence. -Eric Hoffer



New Faculty Associates in 2013

Kathleen Abrahamson, Assistant Professor of Nursing, earned her PhD in Sociology from Purdue University. Abrahamson has also received her Graduate Certificate in Survey Research Methods as well as an MS in Sociology from Purdue.

In addition, Abrahamson is a Registered Nurse with eleven years of clinical nursing experience. Prior to her career at Purdue, she served as an Assistant Professor in the Department of Public Health at Western Kentucky University.

Dr. Abrahamson's research focuses on long term care, implementation of health care quality improvement, and quality of life and work within nursing homes. The journals in which her research has been published include *American Journal of Nursing*, *Health Affairs*, *Journal of Aging and Health*, and *The Gerontologist*.



Jason Cannon joined the Purdue School of Health and Human Sciences in January 2012 and became a CALC Faculty Associate in 2013. He was previously a postdoctoral fellow in the Pittsburgh Institute of Neurodegenerative Diseases at the University of Pittsburgh.

Cannon received his bachelor's degree in Physiology from Michigan State University and his PhD in Toxicology from the University of Michigan. His research expertise is featured on page 1 of this issue of AE.

During his time as a postdoctoral fellow at the Pittsburgh Institute of Neurodegenerative diseases, he received funding from the American Parkinson Disease Association and the National Institutes of Health. Cannon's publications have appeared in *Behavioural Brain Research*, *Brain Research*, *International Journal of Stroke*, *Neuroscience Letters*, and *Toxicological Sciences*.

Jennifer Freeman, Assistant Professor of Toxicology, earned her PhD in Environmental Toxicology and Molecular Cytogenetics from the University of Illinois at Urbana-Champaign. She also earned her BS in Cell and Structural Biology, with a Minor in Chemistry, from the University of Illinois. Before joining Purdue in 2007, Professor Freeman taught at the University of Illinois and Parkland College.

Freeman's research focuses on genetic and epigenetic mechanisms of toxicity in the developmental origin of adult diseases from low dose exposure to environmental chemicals. Her published research appears in *Environmental Toxicology*, *Immunogenetics*, *Nature*, and *Proceedings of the National Academy of Sciences, USA*.

Freeman has received numerous awards for the excellence of her work including the Colgate-Palmolive Award for Alternative Research from the Society of Toxicology and the Robert R. Landolt Award for Excellence in Teaching from the Purdue School of Health Sciences.



Hyun Joo Kwon, Assistant Professor of Interior Design, earned her PhD in Housing at Virginia Polytechnic Institute and State University in 2012. Kwon completed her MS in Housing and Interior Design at Yonsei University in the Republic of Korea and earned her BS of Engineering in Architecture at Inje University. She also worked as an interior designer in Seoul and exhibited her work in Korea and the USA.

Kwon's research interests include environmental design for an aging society, aging in place, residential design, universal design, smart homes, and sustainable design. Her research has been published in *Family and Consumer Sciences Research Journal* and the *Journal of Digital Interactions Design*.

Dr. Kwon has taught Purdue classes on *Interior Design* and *Design Process and Communication*. Her teaching interests also include residential design, human factors in spatial design, and research methodology.



Jiyeon Lee is Assistant Professor of Speech, Language, and Hearing Sciences at Purdue. She earned her PhD in Communication Sciences and Disorders from Northwestern University, specializing in Cognitive Science and earning ASHA Clinical Certification in Speech-Language Pathology. Lee obtained her MA in Linguistics from the University of Wisconsin-Milwaukee.

Lee's Research encompasses language breakdown and recovery in aphasia, morphosyntactic processing in aphasia, aging, and related neurogenic disorders, time course of sentence production/processing in healthy and impaired speakers.

Dr. Lee's research has been published in *Aphasiology*, *Behavioral Neurology*, *Communication Sciences & Disorders*, *Journal of Acoustical Society of America*, and *Language and Cognitive Processes*.

Patricia A. Thomas, Assistant Professor of Sociology, studied at Duke University to receive her MS and PhD in Sociology. Prior to joining Purdue, Thomas was a Postdoctoral Fellow at the Population Research Center at the University of Texas, Austin.

Dr. Thomas' research examines aging, the life course, social relationships, social positions, and health. The courses she has taught include Health and Human Social Behavior, Sociological Theory, and Gender, Work, and Organizations.

Her publications appear in a variety of outlets including *American Journal of Public Health*, *Journal of Gerontology: Social Sciences*, *Journal of Health and Social Behavior*, and *Social Science & Medicine*.



"In The Eyes of 105" - A Personal Interview by Megan Klotz

At the turn of the twentieth century, Anna Nayphe and her brother left Lebanon and set out for the Americas. They left with the intention of gaining what was most valuable to them, their religious freedom. They made their way to Ellis Island carrying with them a black suitcase full of pins, needles, and sewing necessities. Their journey led them to Indianapolis, Indiana.

Anna Nayphe married Alexander Kamees in 1900 and had 7 children: Albert, William, Rosemary, Emily Mae, Eva, Sadie, Kathryn, and Louis John. This brings us to Eva, or Raifa as her mother called her by her Lebanese name. If we would like to be technical, we would call her by the name on her birth certificate which reads "Fifth Child". Born the fifth of seven children, the doctors failed to understand the Lebanese dialect of Eva's mother. Raifa, Eva, or the Fifth Child has been known to me as Great Grandma Evie for the past 22 years.

I recognize her by sweet disposition, wonderful cooking, and her large collection of angels. To others, she is recognized by the longevity of her life. To epidemiologists, she is considered a centenarian, a person who has lived beyond 100 years of age. According to the 2010 US Census, the US has the greatest number of known centenarians compared to any other nation. 17 in 100,000 people in the US are recognized as centenarians with the highest incidence of these people being women.

While her birth certificate states she is 104 years old this past December, Social Security indicates otherwise, making her 105 years old. When I asked my Grandma exactly how old she was she replied with a grin, "that's not to be recorded."

Growing up she remembers the horse and buggy that came through the neighborhood with wooden crates full of milk. Her family was the only household on the entire

block to have a television: "it was beautiful with its double doors, black and white color, and wonderful reception." They watched Red Skeleton, George Burns, Fibber McKee and my Great Grandmother's favorite news anchor, Walter Cronkite.

Her first date with her soon-to-be husband, William Jennings, was a trip to see a movie at the Indiana Theatre. She married young and the wedding only cost \$20. In 2011, the average wedding cost approximately \$27,000.

Her husband gave her a weekly allowance of \$5 to buy groceries,

household items and any other necessities needed to take care of her husband, home, and son.

Her first vehicle was a 1936 Ford that went "as fast as anybody wanted it to." My father smiled as he said, "Grandpa always bought her giant cars. He didn't want her in a little car because she drove so fast. If she ran into anything he never wanted her to get hurt."

When discussing politics, she conveyed that in her opinion the best president of the United States was Franklin D. Roosevelt. In regards to current political issues the country is facing she replied, "what's going on right now is going to give us quite the ride, it's tough. It's



Raifa Klotz, Age 105

just tough."

"Tough" to my Great Grandmother, I would imagine, is extremely different from my conception of "tough." She remembers a friend, Frankie, being drafted into war. The image of her Frankie's mother walking down the street when the armistice had been signed, banging a metal pan yelling "Frankie is coming home!" is still vivid.

The days of Prohibition and Al Capone brought up stories of bootleggers running banned alcohol between Chicago and Springfield, Illinois. Aello, a friend of my grandmother and victim of Al Capone's gang, was found on his way home from church with 28 bullet holes in his body.

In those days, her father carried a shotgun for protection. To end our political discussion, I asked her what she thought of the civil rights movement in the 1960's. She replied, "they should have started the movement 20 years before they did."

In regards to technology, she thinks the world is going a little too fast. "Slow down and forget some of the things you all worry about. You don't know how good it is to simply sit around a table and eat with the people you love."

In the early 90's growing up, she taught me the

Charleston, the Mashed Potato, and how to knit. Now in 2013, as I study to become a nurse, I notice and appreciate the uniqueness of my Great Grandma Evie that much more.

Her skin is beautiful and free of aging spots. Her advice for people my age, "wash your face with good soap and a good washcloth." She walks without an ambulatory aid and is as quick as a whip. To this day, she still lives independently in her own home eating her own cooking. She still faithfully wears her wedding ring even after losing her husband nearly 40 years ago.

A supercentenarian is defined as someone who has lived to at least 110 years of age. My Great Grandma Evie is well on her way to becoming one of only a few hundred supercentenarians in the world.

What is her secret?

Maybe it was the giant cars that have kept her safe and living so long.

She also followed good health regimens: regular exercise and a diet with plenty of fresh fruits and vegetables (antioxidants). Great Grandma Evie also has a strong spiritual life. She says her life has been led by "what the Good Lord would want." Perhaps this is where the secret of life is kept ... with simplicity.

Simplicity is the ultimate sophistication. -Leonardo da Vinci



The Indiana Theatre in historical downtown Terre Haute, Indiana. Still in use after opening in 1922.

Honors and Awards during 2013

Wayne Campbell, Professor of Nutrition Sciences, was appointed to the 2015 Dietary Guidelines Advisory Committee was announced by the U. S. Department of Health and Human Services and the USDA.

Aleda Chen (Dual PhD 2011) was appointed to the editorial board of *Research in Social and Administrative Pharmacy*.

Krista Cline (PhD 2007) received the Apple for You Award from Butler University, based on student nominations for favorite professor.

Jennifer L. Freeman, Assistant Professor of Toxicology and Health Sciences, was honored with the Purdue Research Foundation International Travel Award as well as the Purdue University Charles B. Murphy Outstanding Undergraduate Teaching Award Nominee, School of Health Sciences (College of Health and Human Sciences).

Rong Fu, Graduate Student in Sociology, received the *Emerging Scholar and Professional Organization (EPSO) Student Poster Award* at the annual meeting of the Gerontology Society of America.

Brian K. McFarlin (PhD 2003) was an invited speaker to strength and conditioning coaches at the Major League Baseball meetings in Orlando. His address was entitled "The Inflammation story: Unraveling the fact and fiction regarding nutrition for muscle recovery and immune health."

Dan Ritchie, Dual-Title PhD 2009 and owner of Miracle Fitness in Lafayette and West Lafayette, received the *PFP Trainer of the Year* award at the Club Industry Show.

Markus Schafer, Dual-Title PhD 2011 (University of Toronto) and Professors **Ken Ferraro** and **Sarah Mustillo** received the 2013 Richard Kalish Innovative Publication Award from the Gerontological Society of America for their article, "Children of Misfortune: Early Adversity and Cumulative Inequality in Perceived Life Trajectories," in the *American Journal of Sociology*.

Tetyana Pylypiv Shippee, Dual-Title PhD, 2008 (University of Minnesota) was honored as the first recipient of Lee University's Department of Behavioral and Social Science Distinguished Alumni Award.

Anne Smith, Distinguished Professor of Speech, Language, and Hearing Sciences, was selected by the American Speech-Language Hearing Association to receive its Honor Award.

April Stull (PhD 2007) was selected to participate in the Dannon Institute's 2013 Nutrition Leadership Institute.

Jill Suitor, Professor of Sociology, was elected to a three-year term as the Secretary-Treasurer of the American Sociological Association Section on Aging and the Life Course and accepted an invitation to become Deputy Editor of the *Journal of Gerontology: Social Sciences*.

Nicholas A. Turiano, PhD 2012, won the 2012 J. S. Tanaka Personality Dissertation Award from Association for Research in Personality.

Mike Vuolo, Sociology, received the *Outstanding Junior Scholar Award* from the American Sociological Association's Alcohol, Drugs & Tobacco section.

Congratulations 2013 Graduates

Megan Gilligan earned the dual-title PhD in Sociology and Gerontology in August and joined the faculty of Iowa State University as Assistant Professor of Human Development and Family Studies.

Naomi Kariuki earned the Masters of Veterinary and Clinical Science and a Minor in Gerontology and is now working on her Pharmacy Doctorate degree at Purdue University.

Megan McPherson earned the dual-title PhD in Speech Language, and Hearing Sciences and Gerontology and joined the faculty of Florida State University.

Tiphannie Raffegeau earned the M.S. in Health and Kinesiology in May.

Michael Steinhour earned the PhD in Sociology and Gerontology Minor in December and joined the faculty of Saint Joseph's College in Rensselaer, Indiana.

Lori M. Ward earned the dual-title PhD in Pharmacy Practice and Gerontology in December.

Transitions during 2013

Heidi IglayReger (PhD 2006) became the supervisor of the Physical Activity Laboratory in the Michigan Metabolomics and Obesity Center (MMOC), University of Michigan.

Daniel Mroczek, joined Northwestern University as Professor of Psychology (Weinberg College of Arts and Sciences) and Professor of Medical Social Sciences (School of Medicine).

Minjung Seo (PhD 2007) received tenure in the Department of Health Promotion and Wellness at State University of New York at Oswego.

Roland J. Thorpe, Jr. (PhD 2004) transitioned from the Department of Health Policy & Management to the Department of Health, Behavior and Society at the Johns Hopkins University Bloomberg School of Public Health.

Tim Wright (PhD 2008) became Program Director for the physical education major and the health education minor at the University of Wisconsin, Stevens Point.

With Appreciation to Our 2013 Donors

<i>Kathryn L. Berlin</i>	<i>Michael D. & Jennifer J. Murray</i>
<i>Wayne W. Campbell</i>	<i>Mary A. Perigo</i>
<i>Susan K. DeCrane</i>	<i>Vilayvone & Mani Phengrasmy</i>
<i>Kenneth & Linda Ferraro</i>	<i>Laura P. & Timothy D. Sands</i>
<i>Min-Ah Lee</i>	<i>Nicholas A. Turiano</i>

Welcome New Gerontology Students

Gulcin Con, Sociology
Susannah Gordon, Nutrition Science
Lauren Parker, Health and Kinesiology
Siyun Peng, Sociology
Anusha Sundarrajan, Speech, Language, and Hearing Science

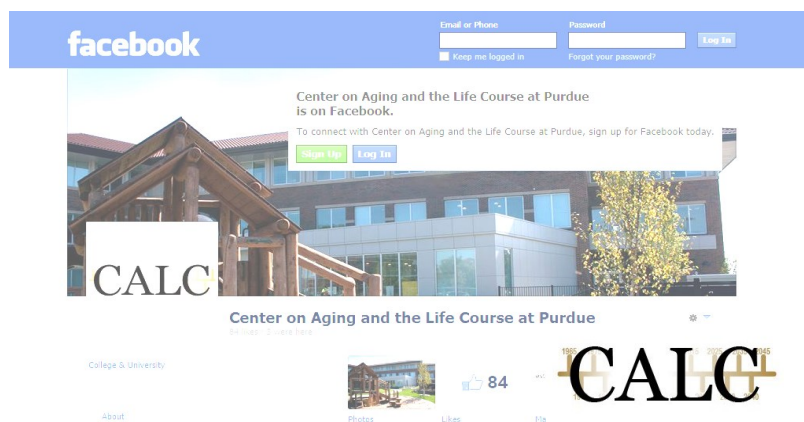
Aging is not the lost youth but a new stage of opportunity and strength.
–Betty Friedan

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UPCOMING EVENTS

When	Where	Speaker	Presentation
February 21, 2014 12:30pm-1:30pm	Stone B2	Jason R. Cannon Assistant Professor of Health Sciences and Toxicology	<i>The Role of Aging in Susceptibility to Neurotoxic Exposures and Neurodegenerative Diseases</i>
March 7, 2014 12:30pm-1:30pm	Stone B2	Hyun Joo Kwon Assistant Professor of Interi- or Design	<i>Housing Design for Optimal Aging</i>
April 4, 2014 (9:30am-1:00pm, tentative)	PMU Anniver- sary Drawing Room	Laura Sands , Katherine Birck Professor of Nursing (Graduate student presenta- tions)	<i>Predisposing and Precipitating Risks for Unmet Need for ADL Assistance</i> <i>(Scholars in the Spotlight and Spring Luncheon)</i>

Forty is the old age of youth; fifty the youth of old age.
Victor Hugo
