



PROGRESSES

2010

2011

2012 ◀ Annual Report

2013

2014



Dear Friends and Colleagues,

As we embark on a new year of discoveries, we invite you to look back with us at some Institute on Aging highlights from 2012. We made great strides in patient care, infrastructure and faculty development, basic science research and clinical and translational research.

The institute this year will be moving to our new home within the Clinical and Translational Research Building. The modern, 120,000-square-foot complex overlooking the lush Wilmot Gardens is near completion. It's almost time for us to start packing!

We also opened a new clinical research unit at the UF Lake Nona Research and Academic Center in Orlando, providing an opportunity for residents of that area to take part in aging-related clinical studies.

Our research efforts continue to grow with the addition of new faculty and the publication of important new research findings. A notable position filled in 2012 is the directorship of the Cognitive Aging and Memory Clinical Translational Research program. We also received renewal of our Claude D. Pepper Older Americans Independence Center, a major grant from the National Institute on Aging. During the annual sarcopenia conference held in Orlando in December, institute faculty had the chance to talk with colleagues from around the world about the exciting and promising work we are doing here.

This year we will continue to build on the remarkable progress we have made ... stay tuned.

Your support has been vital to our program and will continue to be vital to our future — thank you.

A handwritten signature in black ink, appearing to read 'Marco Pahor', written in a cursive style.

Sincerely,
Marco Pahor
Director, UF Institute on Aging



VISION TO REALITY

Clinical and Translational Research Building opens Spring 2013

The new home of the UF Institute on Aging is taking shape. The Clinical and Translational Research Building, or CTRB, is slated for completion in Spring 2013. The \$45 million, 120,000-square-foot complex will be a hub for efforts that will speed scientific discoveries to patients by bringing together researchers from a range of disciplines. The building will house the UF Institute on Aging, the Clinical and Translational Science Institute and an array of other research departments and clinical programs, as well as state-of-the-art conference, training and reception areas. Here's a look at the construction progress over the last several months, since the groundbreaking in May 2011.

January 2013



Nov. 2011



March 2012





Dr. Ronald Cohen
Director, UF Cognitive Aging and Memory
Clinical Translational Research Program

A NEW LEADER

Distinguished neuroscience researcher selected to lead UF cognitive aging and memory program

Dr. Ronald Cohen was named director of the UF Cognitive Aging and Memory Clinical Translational Research Program.

Before coming to UF, Dr. Cohen was a professor of psychiatry and human behavior at Brown University and director of the Neuropsychological Research Centers for Behavioral Medicine at The Miriam Hospital.

Dr. Cohen brings unique expertise and experience to the study of cognitive aging and memory. Over the last 15 years his research has centered on brain-related effects of diseases and conditions such as cardiovascular disease, HIV, hepatitis C and obesity, which affect the brain but are not typically thought of as brain disorders. This work, which bridges a broad range of disciplines, attracts strong support from major funding agencies.

Dr. Cohen's primary appointment is in the UF College of Medicine department of aging and geriatric medicine, and he also holds joint appointments in the departments of neurology, psychiatry and community health. His program, supported by the McKnight Brain Research Foundation, will be an excellent complement to the ongoing basic science, clinical and translational research at the UF Institute on Aging. In his role with the McKnight Brain Institute of UF, Dr. Cohen is leading efforts to develop and test methods for improving brain function in humans based on animal models being developed at the institute.



ORLANDO!

UF Institute on Aging lengthens its reach

The UF Institute on Aging has expanded its footprint so that thousands more Floridians can take part in clinical and translational research studies aimed at improving the health and independence of older adults. The institute has established a 4,200-square-foot clinical research unit within the roughly 106,000-square-foot UF Research and Academic Center at Lake Nona that opened officially in November 2012.

The new unit gives the Institute on Aging the ability to reach beyond Gainesville to recruit study participants. Involving larger numbers of people from a wider geographical radius will improve the quality of the resulting research data and the soundness of the study findings.

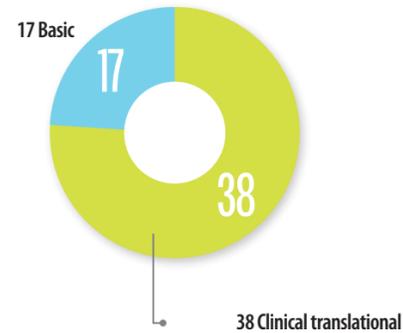
Residents of Orlando and its environs will be able to take part in future Institute on Aging studies of older adults. Current research includes the LIFE study, to assess whether physical activity or health education can prevent movement disability; the TTRial, to test whether giving testosterone to men who have depleted levels can help improve health and physical and mental function; and the ASPREE study, to determine whether daily low-dose aspirin can help stave off disabling conditions and increase life expectancy among healthy seniors.

The institute is working with the UF Clinical and Translational Science Institute's Community Engagement and Research Program to help increase participation in clinical studies.

Community members also will benefit from potential cross-disciplinary collaborations with researchers at the neighboring Sanford-Burnham Medical Research Institute.



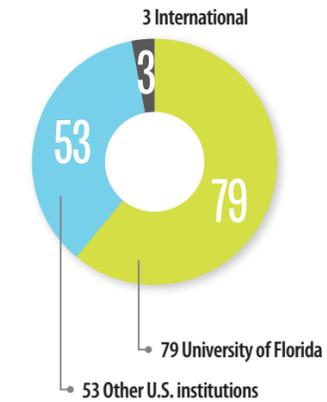
2012: YEAR IN REVIEW



55 Active projects



3,432
Participants
enrolled in studies



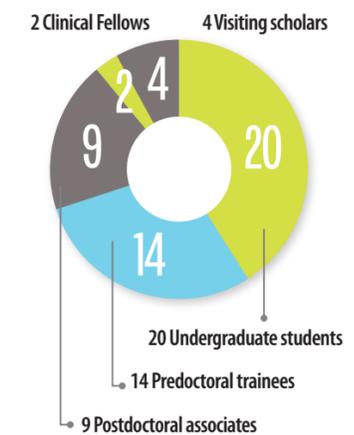
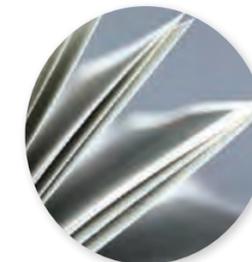
135 Investigators



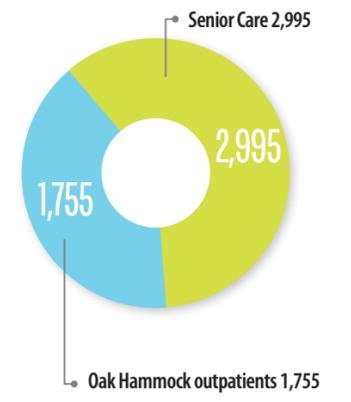
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Affiliated
UF colleges

- Agricultural and Life Sciences
- Dentistry
- Education
- Engineering
- Health and Human Performance
- Liberal Arts and Sciences
- Medicine
- Nursing
- Pharmacy
- Public Health and Health Professions
- Veterinary Medicine

198
Peer-reviewed
publications



49 Trainees



4,750 Patients seen

UF Claude D. Pepper Older Americans Independence Center | Research areas and key findings

Basic Research:

Christiaan Leeuwenburgh

Major discoveries were made related to failure of autophagy to respond to ischemia reperfusion injury in livers of old animals. Overexpression of autophagy genes, Beclin-1 and Atg4B, in aged liver provided protection against ischemia reperfusion injury.

Gastroenterology. 2011;141(6):2188-2199.

Christy Carter

Angiotensin-converting enzyme inhibitors (ACEIs), administered late in life to aged rats result in decreased overall age-related adiposity, inflammation, oxidative stress and apoptosis in skeletal muscle.

J Am Geriatr Soc. 2012;60(7):1244-1252.

Age (Dordr). 2012;May 26. [Epub ahead of print]

Age (Dordr). 2012;34(4):831-843.

Philip Scarpace

Elevated leptin accelerates diet-induced weight gain and is one factor in age- and diet-induced obesity.

Neuropharmacology. 2011;60(2-3):480-487.

Jinze Xu

Age-related iron accumulation in skeletal muscle contributes to increased oxidative damage, mitochondrial dysfunction and sarcopenia.

Exp Gerontol. 2012;47(1):100-108.

Shinichi Someya

The accumulation of mtDNA mutations or mitochondrial ROS causes age-related hearing loss, and mitochondrial Sirt3 mediates prevention of age-related hearing loss by caloric restriction.

Cell. 2010;143(5):802-812.

Tom Foster

Advancing the understanding of mechanisms and modifiers (N-methyl-D-aspartate receptors and voltage-dependent Ca^{2+} channels) of age-related cognitive decline and providing insights into potential targets to promote cognitive health in older adults.

Prog Neurobiol. 2012;96(3):283-303.

Clinical Translational Research:

Marco Pahor

The inflammatory marker interleukin-6 is confirmed to be a robust predictor for major health outcomes in older persons and those with higher urinary levels of markers of oxidative stress and platelet activation (8-iso-prostaglandin F2 α and 11-dehydro-thromboxane B2) present a higher mortality risk.

J Gerontol A-Biol. 2012;67A(6):671-676.

Roger Filllingim

Biological and psychosocial factors contribute to clinical and experimental pain responses in patients with knee osteoarthritis pain, including vitamin D levels, optimism and experiences of discrimination.

Mol Pain. 2012;8(12).

Arthritis Rheum. (in press)

Health Psychol. (in press)

Anna-Maria Joseph

Mechanisms of human muscle mitochondrial biogenesis (PGC-1 α), Sirtuins and mitochondrial dynamics (fusion and fission) were investigated in very old humans. PGC-1 α , OPA-1, SIRT-3 were markedly decreased in human muscle compared with healthy young controls.

Aging Cell. 2012;11(5):801-809.

Connie Uphold

The Spanish- and English-language RESCUE website for stroke caregivers generated more than 13,000 hits using WebTrends analysis and in qualitative interviews health care providers and family members of Veterans post-stroke improved knowledge, skills and quality of life of caregivers.

Fed Pract. 2010;27(9):33-36.

Vonetta Dotson

The relationship between late-life depression and white matter lesions differs for different types of symptoms, suggesting that the severity of components of depression should be considered in depression research.

Int J Geriatr Psych. 2013;28(1):66-74.

Stephen Anton

A dietary weight-loss-plus-exercise program enhanced markers of cellular quality control in overweight older women. Compared with a low-fat diet, a high-fat diet led to significantly greater reductions in fat-free mass during weight loss. Additionally, participants eating a low-fat diet reported significantly higher levels of physical activity compared with participants consuming a high-fat diet. Calorically restricted diets (regardless of their macronutrient composition) yielded significant reductions in cravings for fats, sweets and starches but increased cravings for fruits and vegetables.

Rejuv Res. 2011;14(3):315-324.

Int J Obesity. 2012;36(3):448-455.

Eat Weight Disord-St.

David Clark

Impaired neuromuscular activation, particularly during rapid muscle contractions, contributes to weakness and mobility deficits in older adults.

J Gerontol A-Biol. 2012;67(1):41-47.

Exp Gerontol. 2012;47(8):608-613.

Eur J Appl Physiol. 2012;112(6):2289-2301.

Todd Manini

There is a link between free-living energy expenditure and cognitive impairment in older adults. Uncovered mitochondrial gene variants are associated with free-living energy expenditure.

Arch Intern Med. 2011;171(14):1251-1257.

Biochim Biophys Acta. 2012;1817(9):1691-1700.

Thomas Buford

New findings suggest a new therapeutic benefit of ACE inhibitors, drugs commonly used to treat hypertension and heart failure.

J Am Geriatr Soc. 2012;60(7):1244-1252.

PATIENTS FIRST

UF department of aging and geriatric research provides a good medical home for older adults

Every day we work hard to make sure that people who trust us with their medical needs get the very best care. We serve patients at two practice locations in Gainesville.

UF Senior Care at Shands Medical Plaza was renovated in 2012 to provide a quiet, welcoming environment dedicated to seniors. Our staff saw carefully to our patients' needs, delivering more personalized service with shorter waits.

Onsite laboratory, radiology and physical and occupational therapy services make our practice a one-stop shop that's more convenient, especially for patients with limited mobility.

UF geriatricians also serve residents at Oak Hammock at the University of Florida, a private Continuing Care Retirement Community. Oak Hammock offers independent and assisted living facilities and skilled-nursing care for people in declining health. Physicians see patients in the skilled-nursing unit and in outpatient primary care clinics held several times a month. Our gerontological nurse practitioner provides urgent care services daily.

To schedule an appointment or for more information, call 352-265-0615

1375 Gale Lemerand Drive,
Gainesville, FL 32611
Parking is free every day.





PEPPER CENTER RENEWED

Grant funds research to help older adults stay healthy

The University of Florida Institute on Aging was awarded a multimillion-dollar, five-year grant from the National Institutes of Health's National Institute on Aging in renewed support of the UF Claude D. Pepper Older Americans Independence Center. The new award comes on the heels of an initial NIH grant that established Florida's first Pepper Center at UF in 2007.

The center focuses on understanding age-related muscle loss from different perspectives, and the potential role of skeletal muscle as a key target for therapies to counteract age-related damage to the body. Another central part of the center's mission is to train the next generation of academic and research leaders in the field of aging.

UF is one of just 15 institutions in the nation to receive the award, which is named for the late Claude D. Pepper, a U.S. senator-turned-representative from Florida. Pepper advocated for the rights of the elderly and championed laws aimed at improving the health and well-being of older Americans.



L.I.F.E. IS GOOD

LIFE Study enrollment complete, preliminary publication has begun

Now in its fourth year, the Lifestyle Interventions and Independence for Elders, or LIFE, study completed enrolment of study participants three months ahead of schedule. The six-year controlled trial among 1,600 older adults examines whether physical activity or health education can prevent or delay major movement disability among those at risk. Study sites around the country surpassed the overall recruitment target by 35, with a combined total of 1,635 participants.

Here's the breakdown:

Study Site	Number of Participants
Pittsburgh	216
Pennington	208
Wake Forest	205
Northwestern	203
Tufts	202
Florida	201
Stanford	200
Yale	200
TOTAL	1,635

The participant pool has rich racial and gender diversity. Racial minorities make up 21 percent of the study population, ethnic minorities make up 3.7 percent, and women make up 67 percent. The first paper from the study, describing the LIFE Study design and methods was published in the Journals of Gerontology, Series A: Biological Sciences, Medical Sciences.

SUNNY SYMPOSIUM

International researchers gathered in Orlando to discuss age-related muscle loss

Sunny Florida hosted researchers from around the world during the 2nd annual International Conference on Sarcopenia Research, Dec. 6-7, 2012, at the Hilton Grand Vacations Suites in Orlando. Drs. Marco Pahor, Bruno Vellas and Roger Fielding headed the organizing committee.

Sponsored by the Global Aging Research Network of the International Association of Gerontology and Geriatrics, the meeting tackled the topic of age-related muscle loss from a multidisciplinary perspective. Speakers presented research in a variety of fields, including physical activity, nutrition intervention, animal models, drug development and clinical trials. The meeting featured symposia, oral presentations and poster sessions.

Speakers and presenters hailed from many different countries, including the United Kingdom, Germany, France, Italy, Belgium, Canada, Mexico, Brazil, Japan, China, South Korea, Indonesia, Australia and the U.S. Activities included a tour of the new UF Research and Academic Center at Lake Nona.

▶ GIVING TO THE UF INSTITUTE ON AGING: WHY EVERY DOLLAR COUNTS

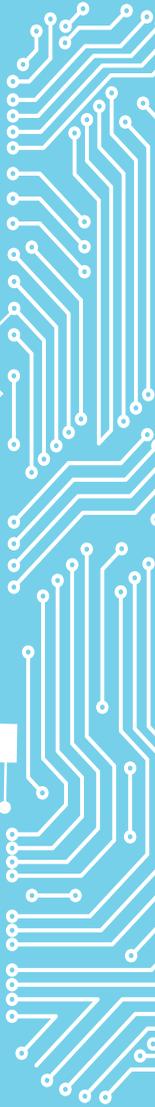
Unlocking life's mysteries — particularly the secrets of how long and how well we live — is the distinct focus of the University of Florida Institute on Aging. Our scientists and physicians are dedicated to achieving a better understanding of the biological mechanisms of aging and of how we can maintain or enhance our physical independence and cognitive abilities.

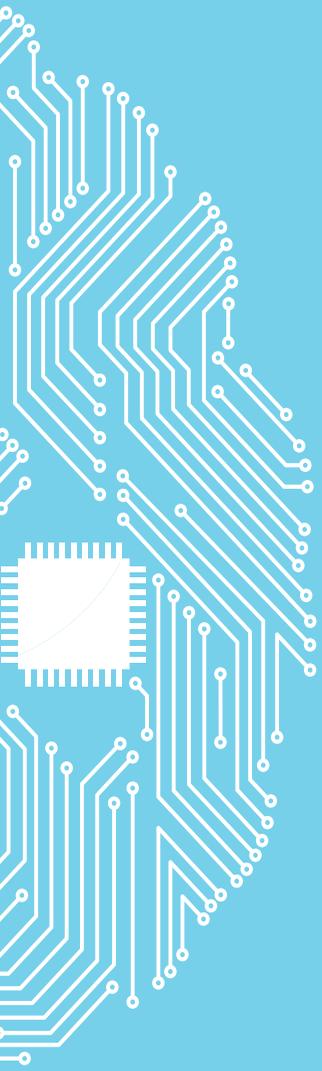
PRIVATE PHILANTHROPY IS SO ESSENTIAL TO OUR WORK;
YOUR GIFT, REGARDLESS OF SIZE, CAN MAKE THE CRITICAL
DIFFERENCE IN FUNDING NEW SCIENTIFIC ENDEAVORS.

Imagine discoveries that fuel positive cellular changes or lead to new therapies to help rehabilitate aging bones and joints ... private philanthropy makes all this and much more possible.

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To learn more about how you can invest in a healthier and more independent tomorrow for us all, please contact Mary Ann Kiely at 352-273-9620 or email mkiely@ufl.edu.





TEACHING AN OLD BRAIN NEW TRICKS

The aging brain works differently to make up for lost function

For some, successful aging means looking and acting like the young. But not when it comes to the brain.

Imaging and molecular studies show that even when older adults perform at a high level, their brains often don't do things in the same way as young people's brains. In fact, it's low-performing older adults whose brain activity often looks like that of younger folks. Older brains have a way of making up for age-related losses in function by working in different ways and recruiting new brain areas and paths to help get things done.

The findings suggest a different picture from the idea of aging simply as inexorable decline. Understanding how older brains compensate for losses could lead to new methods for detecting cognitive decline early and therapies for boosting brain activity.

"The brain is a very complex machine. It can go wrong in many different ways, but it can also improve productivity in many different ways," said neuroscientist Roberto Cabeza, Ph.D., a Duke University professor who gave the keynote address Feb. 29 at the UF McKnight Brain Institute symposium on aging, memory and cognitive decline.

The symposium, sponsored by the McKnight Brain Research Foundation, featured multidisciplinary presentations from scientists in the departments of neuroscience, aging and geriatric research, bioengineering and clinical health psychology. Topics ranged from molecular mechanisms to human clinical trials. Ronald Cohen, M.D., the newly appointed director of UF's Cognitive Aging and Memory Clinical Translational Research Program, spoke on the influence of cardiovascular disease and body weight changes on cognitive decline.

Cabeza's research showed that the brains of older adults can compensate for losses by making adjustments in terms of space, time or connectivity between regions. The compensation is often in the form of increased activity, which shows up on functional magnetic resonance imaging studies as increased blood flow to a particular area.

"This compensation may be a sign of fundamental problems that need to be recognized and treated, but it also represents the amazing ability of the brain to adapt to the stresses of life," said Thomas Foster, Ph.D., the Evelyn F. McKnight chair for brain research in memory loss at UF, who organized the symposium. "Age-related cognitive decline and memory impairment can rob us of our independence and sense of self, and this is a concern for an increasing portion of the population as we grow older. This is why national efforts are put forth to develop techniques for early detection and expanded research on understanding the causes and treatment."

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