

MIND, MOBILITY, FINANCIAL SECURITY

FY 10 - 11 Annual Report of the Stanford Center on Longevity September 1, 2010 - August 31, 2011

MISSION

stablished in 2006 by a group of Stanford faculty, led by psychologist Laura Carstensen and neurologist Thomas Rando, the Stanford Center on Longevity is the only organization of its kind. Our mission is to redesign long life. We accomplish this mission by engaging in interdisciplinary collaborations and research and by linking Stanford scholars with government, business and the media. We believe that, to the extent that individuals approach old age mentally sharp, physically fit and financially secure, aging societies will thrive.

Table of Contents

Director's Note	1
About the Center	2
Mind Division	4
Mobility Division	8
Financial Security Division	12
Global Aging Program	16
Politics, Scholars & the	20
Public Program	
Research	24
Faculty Seed Grants	24
Postdoctoral Fellowships	28
People	31
On Campus	42
Working Together	44



Saturday, October 23, 2010 9:15 – 11 a.m. Maples Pavilion, Stanford University | www.stanford.edu/roundtable















Supreme Court (retired)

From family dynamics to the global economy, the graying of the boomer generation will impact every aspect of society. What is next for boomers and the generations that follow in their wake?

As the planet's population surges towards 9 billion in 2050, our sheer numbers will exert tremendous pressure on resources, infrastructures and the ability of leaders to address the issues of the massive shift in demographics.

Living longer and better may be the biggest challenge any individual boomer faces, but the global implications of an aging world population are equally daunting. Few issues are as universal and compelling in the world and in one's own life.

Open to the public and held in collaboration with Stanford Reunion Homecoming

- Tickets available for \$10 each at the Stanford ticket office: 650-725-2787
- Students, faculty, and staff may obtain free tickets with ID card - Parking is limited so come early or use public transportation
- Reunion Homecoming participants will be admitted with Reunion name tag









DIRECTOR'S NOTE

n 2010 the first of the baby boomers turned 65, President Barack Obama turned 50 and the Center on Longevity completed its fifth year. The Center has created and nurtured a vibrant community of longevity scholars on campus. Research funded by the first round of the Center's faculty seed grant programs was completed. Stanford undergraduates began to embark on research journeys related to longevity this year, creating engaging blogs on the Center's website. Our re-designed website supported these and other initiatives.



Laura L. Carstensen, Director



A particularly exciting event this past year was the

annual Roundtable at Stanford in October, which focused on the topic "Generation Ageless: Longevity and the Boomers, Consequences for Our World and Ourselves." With a distinguished panel led by Tom Brokaw, we engaged the Stanford alumni and surrounding community in discussions on issues of longevity and the future. We also continued our distinguished lecture series with two stellar speakers – Barbara Strauch, science editor for the *New York*

Times and author of The Secret Life of the Grown

Up Brian and Marc Freedman, Founder and CEO of Civic Ventures and author of *The Big Shift:* Navigating the New Stage Beyond Midlife.

We remain grateful and appreciative of the support of Stanford University and our donors, collaborators and friends. As you read about the Center's programs, we hope you agree that the Center is making a real difference.

Laura L. Carstensen, Founding Director

ABOUT THE CENTER

he Stanford Center on Longevity studies the nature and development of the entire human life span, looking for innovative ways to use science and technology to solve the problems of people over 50 and improve the well-being of people of all ages. In partnership with over 130 Stanford faculty affiliates, the Center's staff pursues an interdisciplinary research agenda focused on practical solutions to longevity–related challenges. We seek to engage the best minds in academia, business and government to come together in conversation and collaboration, to target the most important challenges and solutions for older populations. We focus on key areas of Stanford's academic strengths as we develop our research agenda.

DIVISIONS & PROGRAMS

Divisions



MIND

The prospect of mental decline associated with aging threatens the well-being of individuals and families. Research in the Mind division on early detection of decline, behavioral and biological interventions, and decision aids is aimed at improving cognitive functioning across the life span. The division also offers state-of-the-art information about normal and abnormal aging, and provides input from the world's experts about potential remedies.



MOBILITY

The Mobility division encourages research that promotes lifelong mobility by preventing or reducing barriers to physical movement. The Center places special emphasis on the promotion, development and translation of Stanford expertise and technologies (such as devices, drugs, biologics and behavior) that encourage or restore physical movement.



FINANCIAL SECURITY

Personal saving rates declined from the mid-1980s through 2008, even while life expectancy and number of years in retirement continued to increase. The Financial Security division supports research on products, technologies, and financial education that will help people better plan, save for their futures and guard against financial fraud.



Programs



POLITICS, SCHOLARS AND THE PUBLIC

The Politics, Scholars and the Public program aims to inform policy decisions that impact longevity with empirical findings and research-driven proposals. The program brings together political experts, scholars and voters in a search for sensible solutions to current societal challenges. Work to date has focused on health care issues facing the United States, and on the issues facing individuals and communities as greater numbers of Americans "age in place."



GLOBAL AGING

The Global Aging program focuses on the economic and political implications of population aging around the world as people live longer and have fewer children. Large variations in the timing and pace of fertility declines and longevity gains create dramatic differences across countries. Understanding these developments and trends is critical for addressing them wisely. Through its research and publications, the program stimulates public discourse on the challenges and opportunities associated with population aging.

MIND

2010 - 2011 Projects



RESEARCH NETWORK ON DECISION NEUROSCIENCE AND AGING, Fall 2010

A National Institutes of Health (NIH) network grant on Decision Neuroscience and Aging was awarded to the Center in the Fall of 2010. Over a five-year period, this effort will create a national network of researchers in the field and will support scientific meetings, intensive training workshops for researchers at a variety of career stages, and a pilot grant competition for researchers new to the field. Faculty Affiliate Sam McClure (Stanford,

Psychology) is leading the project. The scientific leadership team also includes David Laibson (Harvard, Economics), Laura Carstensen, and Camelia Kuhnen (Northwestern, Finance). A hosting website (www.srndna.org) has been created to act as a hub for network activities and a place for researchers to share results with others in the network.

Visit the site

LONGEVITY, MUSIC, AND MEMORY CONFERENCE, September 2010

In collaboration with the Stanford Center for Computer Research in Music and Acoustics (CCRMA) and with funding from the Stanford Institute for Creativity and the Arts (SiCa), the Center on Longevity hosted a launch conference on the topic of "Longevity, Music, and Memory" on Sept 30-Oct 1, 2010. The conference was co-chaired by Faculty Affiliates Jonathan Berger (Stanford Music) and Anthony Wagner (Stanford Psychology – Director of Stanford Memory Lab) along with Laura Carstensen. Faculty from several other universities and research institutes also participated. The group explored what is known about the effect of music on the brain and memory and how links can be further explored and potentially exploited for therapeutic uses.

The conference is part of a year-long campus-wide focus by SiCa



LONGEVITY, MUSIC & MEMORY September 30-October 1, 2010

on the topic of memory. Following the conference, Professors Wagner, Berger, and Carstensen presented as part of SiCa's "Music and the Brain" symposium in March, 2011.

Read more

Events, Lectures, Forums:

DISTINGUISHED LECTURE SERIES: BARBARA STRAUCH, September 2010

Barbara Strauch, New York Times science editor & author of The Secret Life of the Grown-Up Brain and The Primal Teen: What the New Discoveries About the Teenage Brain Tell Us About Our Kids, was the second speaker in the Stanford Center on Longevity Distinguished Lecture Series.

The lecture series is cosponsored by Stanford Health Policy's Center on Advancing Decision Making in Aging (CADMA) and the Center on Longevity.



Barbara Strauch

Strauch has been a writer and editor for 35 years, covering everything from City Hall to medicine and space shuttle missions at newspapers in New York, Boston and Houston. As Deputy Science Editor, she also coordinates health coverage throughout The Times and helps oversee the paper's new health website. She started at The Times as the media editor 15 years ago. She was an assistant editor on the National Desk for several years, before moving to the Science Department to run the paper's health and medical coverage.

Strauch spoke about the work that went into her book, related to brain changes as we age. The audience engaged in a lively give and take about aging, cognitive changes and the most current research in the field.



Gregory Samanez-Larkin accepting award

Stanford PhD Greg Samanez-Larkin awarded 2010 Council of Graduate Schools (CGS) Distinguished Dissertation Award for Social Sciences

Greg Samanez-Larkin was awarded the 2010 Council of Graduate Schools (CGS) Distinguished Dissertation Award for Social Sciences for his dissertation "Incentive Processing in the Aging Brain: Individual Differences in Value-Based Learning and Decision Making Across the Adult Life Span." The CGS award recognizes the year's best social science dissertation in the country. Greg presented his research to over 700 graduate school deans at the annual meeting of the Council of Graduate Schools on December 2, 2010.

Events, Lectures, Forums:

A selection of Laura Carstensen's recent presentations September 2010

- Invited speech, Institute of Museum and Library Services, Portland, OR
- Invited speech, Carmel Authors and Ideas Festival, Carmel, CA

October 2010

- Invited panelist, National Institutes of Health Cognitive Aging Summit, Washington, DC
- · Keynote speech, Institute for Private Investors, New York, NY
- · Invited speech, Stanford Women's Club of the East Bay, Oakland, CA

January 2011

· Invited speech, Morgan Stanley, Doolin Group's Client University, Pasadena, CA

March 2011

- · Invited speech, Fredda Blanchard-Fields symposium, Georgia Institute of Technology, Atlanta, GA
- · Recipient of the Susan J. Eklund Honorary Lectureship, Indiana University, Bloomington, IN

April 2011

- Invited speech, National Institutes of Health/National Bureau of Economic Research Working Group, UCLA, Los Angeles, CA
- Invited speech, Joseph L. Parkin Memorial Lecture, Center on Aging, University of Iowa, Cedar Rapids, IA
- · Invited speeches, University of Kansas and Lawrence Public Library, Lawrence, KS

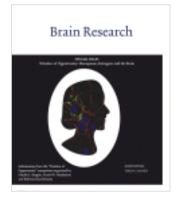
May 2011

· Invited speech, Francisca Club, San Francisco, CA

August 2011

· Keynote speech, Stein Institute, USCD, San Diego, CA

Stanford Faculty Affiliate Research Contributions



CENTER ON LONGEVITY CONFERENCE LEADS TO SPECIAL ISSUE OF BRAIN RESEARCH, January 2010

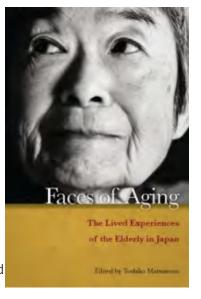
In January of 2010, the Center on Longevity hosted a conference on the "Window of Opportunity" for the use of estrogen hormone therapy and its potential connection to protection from dementia risk. The results of that conference have now been captured in a special issue of the journal Brain Research.

Dr. Teresa Milner, Professor of Neuroscience at Weill Cornell Medical College, volunteered to be the Guest Editor for this issue after her participation in the conference. Milner commented that "The Window of Opportunity Conference changed my opinion and convinced me that we, basic and clinical scientists together, need to find better answers about the potential benefits and risks of estrogen therapy." The conference was hosted by Center on Longevity Faculty Affiliates Dr. Natalie Rasgon and Dr. Victor Henderson, along with Dr. Roberta Brinton from USC.

Read more ▶

FACES OF AGING: THE LIVED EXPERIENCES OF THE ELDERLY IN JAPAN, 2011

Edited by Center on Longevity Faculty
Affiliate Dr. Yoshiko Matsumoto and
published by Stanford University Press,
Faces of Aging is a new book that
examines a wide variety of elder-related
issues in Japan's rapidly aging population
through the eyes of those actually living
through them. Each chapter focuses on
the personal experiences of real people,
"going beyond the interpretations assigned
by broader society." Read more



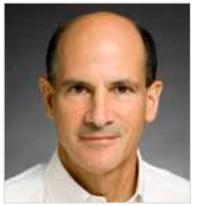
LOOKING FORWARD

Using the Talents of Retired Workers to Improve Communities

Mounting evidence suggests that volunteering confers substantial psychological and physical benefits to older volunteers, along with obvious gains for communities. With funding from the MacArthur Network on an Aging Society, the Center will soon embark on a project to identify the incentives that most effectively enlist participation. Results of this study will inform the subsequent design of programs aimed at increasing volunteerism in older adults.

MOBILITY

2010 - 2011 Projects



Tom Rando, Deputy Director

NEW CENTER FOR RESEARCH ON AGING ESTABLISHED WITH GRANT FROM GLENN FOUNDATION, February 2011

The Center's Deputy Director Tom Rando was awarded two important grants in February 2011. The first, from the Glenn Foundation for Medical Research, is a \$5 million grant to launch a new center on the biology of aging, focusing on the basic mechanisms regulating tissue and organismal aging. Rando will serve as the director of the new center. The second, from the National Institutes of Health, is a National Institute of Aging program project grant, totaling \$7.5 million over 5 years, in support of research on the aging of stem cells.

"There is something about age that predisposes us to disease," said Rando, MD, PhD, a professor of neurology and neurological sciences. "If we could somehow figure out the mechanisms of aging and are able to intervene, it would potentially offer therapy to a wide variety of diseases — not just cancer, heart disease or Alzheimer's, but all of them." Read more

SMART SYSTEM SHOE HITS THE MARKET, Spring 2011

Professor of Bioengineering Tom Andriacchi has spent the past 20 years investigating the mechanics of how we walk. In his BioMotion Lab, Andriacchi and his team use cameras and sophisticated software to analyze the walking gaits of patients with diseases of the knee. The most prevalent of these is osteoarthritis, a disease affecting over 20 million Americans, caused by deterioration of cartilage.

Andriacchi's research has led not only to a greater understanding of osteoarthritis but also to something he never expected – a line of shoes that helps people suffering from the painful condition. With the help of the Stanford Center on Longevity, where he is a member of the Faculty Steering Committee, The Walking Company brought to the market the ABEO Smart System line of shoes based on Andriacchi's research.

Read more



Events, Lectures, Forums:

A selection of Tom Rando's recent presentations October 2010

- Invited speech, Notch Signaling and Stem Cells Conference, Athens, Greece
- Invited speech, New York Stem Cell Foundation Fourth Annual Translational Stem Cell Conference, New York, NY

November 2010

- Invited speech, The Institute for Stem Cell Biology and Regenerative Medicine (InStem), Quiescence and Stem Cell Function Conference, Bangalore, India
- Invited speech, Department of Microbiology & Molecular Genetics, University of Pittsburgh, Pittsburgh, PA

January 2010

- · Invited speech, Dana Farber Cancer Institute and Harvard Medical School, Boston, MA
- · Invited speech, Stem Cell Institute, University of Minnesota, Minneapolis, MN

February 2010

• Invited speech, Center of Biomedical Genetics and the Cancer Genomics Center, Amsterdam, The Netherlands

March 2010

- Invited speech, meeting on Model Systems in Aging, University of Cologne, Cologne, Germany
- · Invited speech, Association Française contre les Myopathies, Lille, France

May 2011

- · Invited speech, Glenn Medical Foundation Annual Symposium, Santa Barbara, CA
- Invited speech, Symposium on Molecular Mechanisms of Adult Stem Cell Aging, Reisenburg, Germany

June 2011

Invited speech, The Aspen Institute Ideas Festival ("Frontiers in Medicine"), Aspen, CO

A selection of Ken Smith's recent presentations April 2011

Invited speech, Los Altos Rotary Club Community Expo for 50+, Los Altos, CA

May 2011

Invited speech, Partners for an Elder Generation, Los Altos, CA

Stanford Faculty Affiliate Research Contributions



Abby King

LIFE: PREVENTING DISABILITY THROUGH EXERCISE AND SOCIAL ENGAGEMENT, January 2010

The aging of the baby boomer generation sets the stage for a potentially unprecedented number of Americans facing risks of functional impairment and disability associated with aging. National disability trends over the past decade among adults ages 65 and older have increased. For some time exercise and social interaction have offered hope in helping elders maintain normal function, but now researchers are considering whether they may also help stave off disability.

Center on Longevity faculty affiliate Abby King and her team at the Stanford Prevention Research Center have begun a study intended to investigate just this question. In sedentary older persons who are at risk of disability, King describes the importance of the study as creating the data necessary to advise the public on the best path to avoiding disability. "It is imperative that we continue to identify strategies for improving or maintaining functional health as people age."

Read more

A NEW RESEARCH CENTER AT STANFORD WILL ADDRESS MOBILITY DISORDERS WITH POWERFUL 3-D SIMULATIONS OF A PATIENT'S MOVEMENTS, December 2010

Bioengineering Professor Scott Delp is the director of a new national center for rehabilitation research at Stanford. The center will focus on using powerful software that simulates human movement to investigate movement disorders and identify the best treatments for patients.



Scott Delp

A movement disorder can have many origins, such as a birth defect, spinal cord injury or stroke. Rehabilitation scientists facilitate treatment of mobility disorders by studying the bodily cause of physical impairments and providing a scientific basis for therapies that can improve function. Simulating a patient's movement in three-dimensional computer models can help uncover the source of the problem, whether it's the size of a particular muscle or bone or the way these components perform.

Computer models also provide a visual platform on which to test whether surgery would improve mobility for a specific patient.

Read more



Tom Robinson

\$12.7 MILLION GRANT FOR STUDY OF CHILDHOOD OBESITY TREATMENT, September 2010

Researchers led by Center on Longevity faculty affiliate Thomas Robinson MD, MPH have been awarded a \$12.7 million, seven year National Institutes of Health grant to design a pediatric weight-

control program. Combatting childhood obesity can help prevent problems later in life, such as diabetes and chronic disease. Collaborators include three other Center affiliates: Jay Bhattacharya MD, PhD, William Haskell PhD and Paul Wise MD, MPH.

"Our study will test a very exciting new model for treating overweight and obese kids," Robinson said. "Currently, most communities have few resources to help these children and their families." Robinson directs the Center for Healthy Weight at Lucile Packard Children's Hospital. The center's intensive, six-month pediatric weight-control program has a great track record: More than 80 percent of participants succeed in reducing their excess weight. But most of the nation's overweight children lack access to an equivalent program.

Read more



LOOKING FORWARD

Sedentary Behavior

In late July 2010. the Center hosted a launch conference on the emerging new field of sedentary behavior which suggests that prolonged periods of sitting have health consequences distinct from those associated with lack of exercise. The group found the evidence connecting sitting and obesity compelling, but insufficient to recommend practical guidelines. Postconference, SCL has convened a research team to design and implement a pilot study on the effects of sitting in the workplace. The team consists of faculty affiliates Cathy Heaney (Psychology and Medicine), Abby King (Health Research and Policy), Mark Cullen (Chief of General Internal Medicine) and Bill Haskell (Stanford Prevention Center).

FINANCIAL SECURITY

2010 - 2011 Projects

RESEARCH CENTER ON THE PREVENTION OF FINANCIAL FRAUD

"The Research Center on the Prevention of Financial Fraud," the Center's collaboration with FINRA, was officially launched in the early summer of 2011, with a new website and an advisory council with expert representation from academia and policy organizations. The goal of the center is to catalyze interest in research on financial fraud prevention by serving three functions; 1) as a clearinghouse of relevant information and research, 2) as a source for information exchange, and 3) as a source for further funding in the field. In addition:



- The website consolidates information into an interdisciplinary archive, while condensing relevant research into practical implications for practitioners and policy-makers.
- Events facilitate connections between and among researchers, policy-makers, and practitioners, furthering the exchange of information and efficient advancement of common goals.
- Seed-funding allows researchers to explore pressing fraud-related questions, and guides other funding organizations interested in supporting the prevention of financial fraud.

Through these combined methods, the Research Center seeks to facilitate interdisciplinary financial fraud research and its application in public policy and consumer advocacy. **Visit the site**

IN THE NEWS

9 secrets of retirement happiness, US News & World Report, Feb. 28, 2011

"It's unsettling to watch your savings going down every year. Losses loom larger than gains..."

Read more

- Laura Carstensen

Why early retirement may not be your best option – US News & World Report, Feb. 10, 2011 "Stanford's Center on Longevity discovered that maintaining the rigors of work actually helps keep people functioning optimally. It may be the mental rigors, the social engagement, or even an aerobic component of work itself."

Read more

- Richard Suzman, National Institute on Aging

AARP FRAUD PREVENTION RESEARCH

The Center completed the second of two research projects focused on understanding and improving the effectiveness of peer to peer counseling in educating older persons to recognize and avoid fraud. The project tested two changes to peer fraud counseling to see if they improved resistance to fraud attempts. The first change used findings from social science research to revise fraud warning scripts. The second change delivered an automated reminder call several weeks



after the initial call. The following key findings identify strategies for fighting fraud.

- Telephone calls that warn potential victims work; people who receive them are more likely to recognize signs of fraud and strategies to handle it.
- It didn't matter what kind of warning script about fraud was used, the old script was as effective as the new script.
- Automated follow up reminders had no additional benefit in fighting fraud.

Events, Lectures, Forums:



Marc Freedman

DISTINGUISHED LECTURE SERIES: Marc Freedman May 2011

Marc Freedman, Founder and CEO of Civic Ventures, and author of a new book called <u>The Big Shift: Navigating the New Stage Beyond Midlife</u> was the third speaker in the Stanford Center on Longevity Distinguished Lecture Series.

Freedman, a well known social entrepreneur, spoke about his call to transform what many Americans see as a "midlife crisis" into new life opportunities. He talked about new options and ideas for the retirement and pre-retirement years,

including second and "encore" careers. Lively discussion and conversation followed his talk.

October 2010 – The Center was invited to present to the Stanford Graduate School of Business Class of '75 Reunion. Martha Deevy provided an overview of the "Realities of Aging: Trends and Conclusions" which introduced a panel discussion on encore careers. This event provided input to a recently launched GSB Alumni Program called "Beacon" which is intended to help successful alumni transition from their primary careers into second careers that leverage their experience while continuing to make a difference.

Stanford Faculty Affiliate Research Contributions

VIRTUAL SELF, January 2010



Faculty Affiliate Jeremy Bailenson, Professor of Communications, was featured in a recent National Science Foundation (NSF) story for his work in using digital avatars to alter how people view their future selves. With support from NSF, Bailenson created the Virtual Human Interaction Lab to study avatars and their affect on the human "masters." Bailenson notes, "As a lab, we've gone a bit out on a limb and argued that the reason you have an avatar is because an avatar makes

you more human than human. It gives you the ability to do things you could never do in the physical world. You can be 10 years younger. You can swap your gender. You can be 30 pounds heavier or lighter. Any behavior or appearance you can imagine, you can transform your avatar to embody." Sometimes, avatars are designed to be ideal versions of their creators, and there's now evidence that the virtual reality persona begins to influence the real life persona.

A longevity related example from Bailenson: "I use algorithms to age a 20-year-old undergraduate's avatar and then I give that undergraduate the opportunity to save money or to spend it frivolously. The undergraduate will put more money in savings as opposed to go out and spend it on partying."

Read more







Images from the Virtual Human Interaction Lab

LOOKING AHEAD TO THE SPEND-DOWN YEARS, September 2010

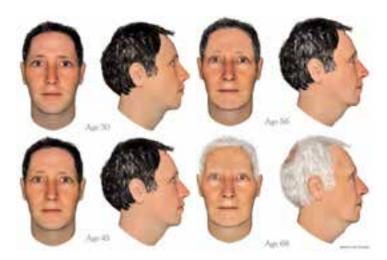
Using virtual reality to enable people to see images of their "future selves" can affect their decisions about saving for retirement, according to studies by researchers at the Center on Longevity. Professor Jeremy Bailenson, a Center affiliate, Laura Carstensen, director of the Center, and



former graduate student Hal Ersner-Hershfield, who is now Assistant Professor of Marketing at New York University, study ways in which technology may help people save.

Read more

"I ask students here at Stanford to envision themselves at 30. They can do that very easily. They envision themselves as they are today only with more money and nicer cars. Then I ask themselves to imagine themselves at 40 and it gets a little hazy, but they now have children. Go to 50 and 60 - hazy, hazy, hazier. You get to 70 or 80 and there is no image at all. They can't envision themselves, they can't picture themselves at that point in life." - Laura Carstensen



In tests, participants who saw the aged image of themselves saved twice as much for retirement as those who saw their current appearance.

LOOKING FORWARD

The Research Center for the Prevention of Financial Fraud will convene its inaugural conference "The State and Future of Financial Fraud" on November 3-4, 2011 in Washington D.C. The agenda brings together practitioners and researchers to discuss a range of issues relating to fraud detection and prevention and includes keynote addresses from Mary Schapiro, Chairman of the U.S. Securities and Exchange Commission and Robert Cialdini Ph.D, noted expert on persuasion and the science of influence. A second 'launch' conference is being planned for early 2012 which will focus on identifying ongoing research opportunities for the Center and its collaborators. The Center anticipates issuing a request for seed grant proposals at the same time.

GLOBAL AGING

2010 - 2011 Projects

STANFORD CENTER ON LONGEVITY/POPULATION REFERENCE BUREAU INDEX OF ELDERLY WELL-BEING, August 2010

This collaborative project was initiated by Adele Hayutin, Senior Research Scholar and Director of the Global Aging Program, to address questions about global best practices that support elderly well-being: Which countries do best? How do countries compare on various dimensions of elderly well-being? The results include a methodology for making such comparisons and a sample set of cross-national comparative measures of well-being

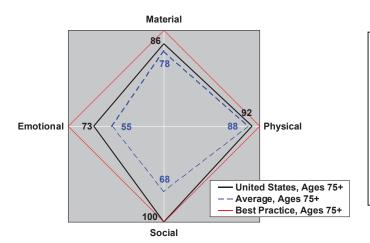


for older people in twelve countries at similar development – Austria, Belgium, Denmark, France, Germany, Greece, Italy, Netherlands, Spain, Sweden, Switzerland, and the United States.

This index and its underlying indicators and sub-indices will facilitate comparisons across more than a dozen countries for which data are currently available, with other countries added as data become available. The key indicators cover four domains: material well-being, physical well-being, emotional well-being and social engagement. The methodology for the index and the comparative measures were developed by PRB, with extensive input from an interdisciplinary advisory committee providing both expertise in index creation and an important "user perspective." A dissemination program is underway to insure that the results are shared with researchers and policy makers. Papers have already been presented to the Association of Public Policy and Management (APPAM), the Southern Demographic Association (SDA) and the Population Association of America (PAA).

Read more

Domain scores for age 75+: United States, 12-country average, and "best practice," 2004-2006



Note: The "best practice" is benchmark for what is achievable based on the best observed values for each indicator among this group of 12 countries. For each domain, the best practice score is 100. The composite score for the United States was 88 for persons age 75 and older.

UNDERSTANDING CALIFORNIA'S DEMOGRAPHIC SHIFTS, May 2011

Under the direction of Adele Hayutin, Senior Research Scholar and Director of the Global Aging Program, the Center launched a comparative analysis of demographic change in California, with a particular focus on the intersection of aging and ethnicity.

While California is one of the youngest states overall, many of its cities and counties are rapidly aging. The inland areas are growing faster than coastal regions and ethnic diversity is increasing. As communities both age and diversify, the needs of their citizens will change. Understanding the underlying demographic changes is critical for understanding the future of the state and the changing needs of its citizens.



The project is being completed for the California State Library which has an expressed goal of adopting innovative methods for meeting the knowledge and information needs of a diverse population. The goal of the project is to develop a set of community demographic profiles that will facilitate an understanding of how key demographic indicators vary across California's cities and counties. The major outputs of this project include demographic profiles for the state's 183 library jurisdictions, most of which are cities and counties; a state demographic overview; and a set of tables that rank the 183 library jurisdictions on key demographic variables. By focusing specifically on library jurisdictions, the report illustrates demographic characteristics that are not always evident when looking at larger groups.

This project is supported in whole by the U.S. Institute of Museum and Library Services under the provisions of the Library Services and Technology Act, administered in California by the State Librarian. The opinions expressed herein do not necessarily reflect the position or policy of the U.S. Institute of Museum and Library Services or the California State Library, and no official endorsement by the U.S. Institute of Museum and Library Services or the California State Library should be inferred.

Events, Lectures, Forums:

A selection of Adele Hayutin's recent presentations February 2011

 Invited participant, Council on Foreign Relations Working Group on Population Aging in the G-20 nations, New York, NY

March 2011

- Invited speech, International Women's Forum Northern California Chapter, San Francisco, CA
- Invited speech, "Health Policy Dialogue on Innovation and Healthy Aging" convened by APEC, the forum for Asia-Pacific Economic Cooperation, Washington, D.C.



Adele Hayutin

April 2011

- Invited panelist, "The Future of Aging: Technology and Innovation" Organized by the Jewish Community Federation's Business Leadership Council, Palo Alto, CA
- Invited speech, annual meeting of the American Society on Aging (ASA), Special Forum on the Future of Aging, San Francisco, CA

August 2011

• Invited speech, three-day conference convened by the Stanford Class of 1959 on current issues of concern, Stanford, CA, with Ken Smith and Margaret Dyer-Chamberlain

Stanford Faculty Affiliate Research Contributions

AGING ASIA: THE ECONOMIC AND SOCIAL IMPLICATIONS OF RAPID DEMOGRAPHIC CHANGE IN CHINA, JAPAN, AND SOUTH KOREA

Nowhere are the effects of aging and demographic change more acute—nor their

care.



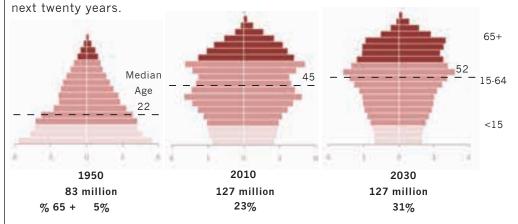


Eggelston Tulja

long-term effects more potentially significant—than in the Asia-Pacific region. How will these developments impact the economies and social protection systems of Japan, South Korea, China, and, by extension, the United States? In a new book, <u>Aging Asia</u>, Center on Longevity affiliates Karen Eggleston and Shripad Tuljapurkar showcase cutting-edge, policy-relevant research, including demographic trends and their economic implications, social insurance financing, medical costs, and long-term

Increasing longevity and declining fertility drive the age shift.

Within 20 years, nearly a third of Japan's population will be age 65 or older. The number of children under age 15 has been steadily declining and soon there will be twice as many old people as children. The total population has already started shrinking and the working age population is projected to decline by 16% over the



Source: Stanford Center on Longevity, using data from United Nations, World Population Prospects 2008 Revision, Medium Variant Forecast

LOOKING FORWARD

Leveraging Older Populations in the Workforce

One major consequence of declining fertility rates and aging populations is slower growth in working-age populations almost everywhere. As a result. most countries face a declining number of potential workers per retiree. A proposed study by the Global Aging Program will consider alternative definitions of "working age" and "retirement age" and will estimate the impacts on the amount of labor supply available from alternative rates of labor force participation at older ages. We will also complete a cross-national review of corporate practices and government polices that promote or discourage continued labor force participation at older ages.

POLITICS, SCHOLARS & THE PUBLIC

2010 - 2011 Projects

THE COMMUNITIES PROJECT

Over the last year, the Communities project has been defining a research agenda surrounding aging in place issues, community indicators, and integrated delivery of services. In December of 2009, the Center embarked on a book project entitled Independent for Life: Homes and Neighborhoods for an Aging America, which was submitted to the University of Texas Press in October 2010. The book will appear on the Spring 2012 publication list. This multi-author volume is edited by Henry



Cisneros, Margaret Dyer-Chamberlain and Jane Hickie; it features chapters by Laura Carstensen, Jane Hickie, Adele Hayutin and a forward by Jack Rowe, Chair of the Center's External Advisory Council.

The book is premised on the fact that we do not have enough affordable, appropriate housing or supportive communities to meet the needs of the projected population of older Americans. The intersection of demographic, financial and political realities ensures difficult choices and new opportunities. The issues to be resolved are vast, complex and unavoidable. Lead funding for the project was provided by the MacArthur Foundation Research Network on an Aging Society. Additional support was provided by the MetLife Foundation, the Home Depot Foundation and the Federal Home Loan Mortgage Corporation.



BECHTEL FUNDED PROJECT ON MEDICARE AND THE VIEWS OF OLDER AMERICANS

With funding from the Stephen Bechtel Fund, the second phase of this project was a collaboration with Alan Garber and the staff of the Stanford Center for Health Policy, as well as Geoff Garin and Molly O'Rourke from Peter D. Hart and Associates and Vince Breglio of Wirthlin Worldwide. This project focused on the views of older American voters on health care

reform and Medicare. The project began with a thorough analysis of the 2008-2010 health care debate as it related to older Americans. Next, focus groups with older voters in Cleveland, Ohio were used to refine and revise the framing of substantive questions related to Medicare. In September 2010, an online research survey was administered to a representative sample of 600 Americans aged 55 to 79.

Not surprisingly, high numbers of participants expressed concern about Medicare solvency. The respondents were queried about whether they thought the new health care bill would improve solvency in the Medicare program. The survey asked three questions about managing health care for seniors, and three questions about controlling Medicare costs. Responses to these questions indicated that older Americans are interested in new ideas about how to better manage health care, particularly in terms of developing "medical team shops" where physicians coordinate patient treatments and about options with other health care professionals to increase home health care. Respondents were far less interested in options that included raising the Medicare eligibility age to 67, using income means testing for Medicare benefits or providing Medicare benefits through a health care voucher system.

Events, Lectures, Forums:

Debra B. Whitman Visit



Debra B. Whitman, PhD, Staff Director, Special Committee on Aging, visited the Center in April 2011, to engage in conversation about the Senate's work on longevity issues. Whitman met with Center staff and with Stanford faculty affiliates, to discuss recent governmental work on issues ranging from the CLASS Act to Social Security to Medicare.

Debra Whitman

Senior Research Scholar Jane Hickie served as an invited reviewer of proposals for the MacArthur Foundation "How Housing Matters" project in Spring 2011, and also assisted with the American Senior Housing Survey.

Senior Research Scholar Margaret Dyer-Chamberlain was an invited panelist at the Aging Services Collaborative meeting, San Jose, CA in September 2010, and an invited presenter at the Aging in America Conference in San Francisco, CA in April 2011, on a panel about new visions for aging in place.



Stanford Health Policy Symposium: The Future of Nursing Report: Leading Change, Advancing Health

In January of 2011, Jack Rowe, Chair of the Center's Advisory Council, worked with the Stanford Center on Health Policy to sponsor an expert panel of nurses, doctors, researchers, thought leaders, policy makers and implementers on the future of nursing.

Nursing, and the role of our nation's three million nurses, is an under appreciated aspect of health policy. Recently, the Institute of Medicine (IOM) released a landmark report, supported by the Robert Wood Johnson Foundation (RWJF), on the Future of Nursing. The report highlights the contribution of nursing to the health care delivery system and presents evidencebased recommendations to improve prevention and care across the lifespan.

Stanford Faculty Affiliate Research Contributions

HOW HEALTH REFORM PUNISHES WORK, January 2010

In an April, 2001 opinion piece in the Wall Street Journal, Center on Longevity Faculty Affiliate Dan Kessler examined the unintended consequences of a little-discussed part of the healthcare reform bill—the over \$100 billion per year subsidies the government will provide to help purchase health insurance. Kessler, the David S. and Ann M. Barlow Professor of Law and



Senior Fellow at the Hoover Institution, presented the following example:

"A family of four headed by a 55-year-old earning \$31,389 in 2014 dollars (134% of the federal poverty line) in a high-cost area will get a subsidy of \$22,740. This will cover 96% of an insurance policy that the Kaiser Family Foundation predicts will cost \$23,700. A similar family earning \$93,699 (400% of poverty) gets a subsidy of \$14,799. But a family earning \$1 more—\$93,700—gets no subsidy."

What Kessler points out is what economists call "notches"—large discontinuous changes in benefits. Prior economic research has shown that such notches incentivize people to work less so as not to exceed income thresholds. Kessler also points out that because the subsidies are so large relative to income that when taxes are included, even smoothing out the notches could imply that for every additional dollar earned by families in the subsidy range only twenty cents would come back to the family as additional spendable income. Kessler's conclusion:

"The only fix is to drastically reduce or eliminate the premium subsidies. As the 2012 elections approach, voters will have to decide: For middle-income families, should economic success be determined by work and savings, or by participation in a government program?"

Read more

MOBILE DEVICES HELP REMOVE BARRIERS TO FRESH FOOD, August 2010

Conditions can be challenging for those using wheelchairs or walkers, with a trip to the market requiring residents to travel down a busy street, and to navigate around sidewalks blocked by parked cars, poorly



lit streets and a crosswalk light too brief for them to cross the four-lane intersection. These physical barriers to fresh-food sources are often overlooked by city planners. Center on Longevity faculty affiliate Abby King and other Stanford researchers are working to solve these problems by employing mobile devices. **Read more** ▶

IN THE NEWS

New York Times, "New Lives for 'Dead' Suburban Mall" by Karen Stabiner, January 21, 2011

The views of Ellen Dunham-Jones and Laura Carstensen, both authors in the Center's new book, <u>Independent for Life: Homes and Communities for an Aging America</u>, were highlighted by the New York times.

Ellen Dunham-Jones, a professor of architecture at Georgia Institute of Technology, sees in the faltering suburban mall an answer to a pressing question: How can aging suburbanites remain in their neighborhoods, as a vast majority of them prefer to do? She believes that retrofitted malls can bring services to suburban neighborhood, as well as housing, places for social interaction, and opportunities to walk.

Laura Carstensen, the Center's Director, supports Dunham-Jones' viewpoint. She noted, "Humans are exquisitely sensitive to environments. If there are safe and appealing paths, they take walks. We must begin to think seriously about building environments that encourage all sorts of healthy behavior."

Read more

LOOKING FORWARD

Independent for Life: Homes and Communities for an Aging America

The book Independent
for Life will be in the
University of Texas Press
catalogue for Spring/
Summer 2012. Plans
are underway to broadly
communicate the
important themes of the
book, and to advance the
research agenda that it
defines.

Health Security Project

Phase three of the
Health Security Project's
multi-year effort has
been launched through
generous support from the
Stephen F. Bechtel Fund.
The focus of the project is
to develop an online game
through which the public
can propose solutions to
the long-term U.S. federal
deficit.

RESEARCH

Faculty Research and Postdoctoral Fellows: Seeding the Future

Faculty Seed Grants

Over the past three years, the Center has provided university research awards of up to \$50,000 to faculty researchers across the Stanford campus. The projects were selected through a competitive process that was open to all Stanford faculty. The resulting proposals encompassed a wide range of solutions to improve life at all ages. True to their name, the seed grants were intended to allow researchers to initiate new areas of study that might not be fundable through traditional sources. The Center's goal was that studies funded by these awards would lead to support from external sponsors or have tangible impacts in the private or public sector.

DRUG DELIVERY MICROPUMP FOR MUSCLE STEM CELL DELIVERY

Helen Blau – Donald E. and Delia B. Baxter Professor of Pharmacology and Professor of Chemical and Systems Biology

Juan Santiago – Associate Professor of Mechanical Engineering

Faculty Affiliates Blau and Santiago combined their expertise and a Center on Longevity seed grant to investigate how frequent but very tiny doses of stem cell regulator molecules might help older



Blau and Santiago's third generation implantable pump

muscles heal more quickly, like younger ones. The study led them to develop a novel and extremely tiny implantable micropump that can deliver doses as small as 100 nanoliters. The device was successfully tested in laboratory mice. The work led to two patent applications and over \$750,000 in follow-on funding from other sources.

STEP BY STEP FALL PREVENTION

Tom Andriacchi – Professor of Mechanical Engineering and of Orthopaedic Surgery

Fall related injuries are a serious problem for older adults. A study in the New England Journal of Medicine reports that more than one in three adults over 65 experience a fall every year and that falls are the leading cause of injury-related death in older adults. At the Stanford Biomotion Lab, Faculty Affiliate Tom Andriacchi and his team have approached this problem with technology-based solutions. Previous research has shown that falls are often preceded by development of a "gait asymmetry," in which stride length and pace are not identical for both legs. Using seed grant funding from the Stanford Center on Longevity, the team developed a system that measures gait symmetry and provides biofeedback through a series of sounds. In the future, this system could be used to create an evaluation and rehabilitation program for patients who develop asymmetry as a result of various health conditions.



One of Dr. Andriacchi's lab assistant demonstrates the gait measurement system



Sleep apnea may indirectly have a link to dementia through insulin resistance

SLEEP APNEA, INSULIN RESISTANCE, AND DEMENTIA

Ruth O'Hara – Associate Professor of Psychiatry and Behavioral Science

Researchers struggle to explain the causes of dementia, a condition that afflicts an estimated 3 of every 20 Americans over 65. Ruth O'Hara explored a correlation between sleep apnea (where breathing pauses during sleep) and dementia. With her seed grant, O'Hara and her team hypothesized that both sleep apnea and dementia are in fact a question

of insulin resistance. Their findings support the theory that sleep apnea contributes to cognitive impairment indirectly, by increasing insulin resistance — which several studies link to dementia. By providing a clearer understanding of the actual roots of cognitive impairment, this research will contribute to a conclusive, long-term study that could suggest specific ways of reducing risk for dementia.

RESEARCH

THE MIND-BODY LINKAGES OF TAI CHI

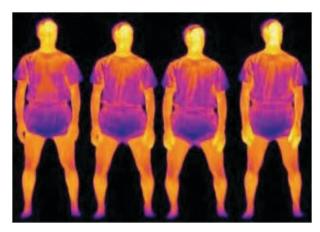
Jessica Rose - Associate Professor of Orthopaedic Surgery

Gary Glover - Professor of Radiology

Scott Atlas - Professor of Radiology and Senior Fellow

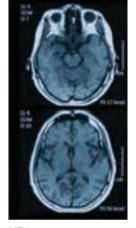
at the FSI and the Hoover Institution

Faculty Affiliates Rose, Glover, and Atlas used their seed grant to develop a joint Stanford University-Lucile Packard Children's Hospital study that examined the ability of highly-experienced tai chi masters to control normally autonomous functions through concentration. In the study, three tai chi masters were asked to "focus their chi" on their hands. They were able to raise the



A time series of infra--red thermography images taken at 1 minute intervals show hand temperature rising (as indicated by the lighter colors)

temperature of the hands 2° C – something normally thought to be outside the sphere of conscious control. Further, the masters exhibited the ability to isolate the effect to one side of the body. Brain images were recorded during the testing and documented exceptionally well developed neural pathways within these masters. Studying the brains and physiological responses of tai chi masters may shed light on medical concerns as wide-ranging as pain management, musculoskeletal conditions, and chronic circulatory disorders.



MRI scan

THE EFFECTS OF "WHITE MATTER" IN THE BRAIN

Michael Greicius - Assistant Professor of Neurology and Neurological Sciences

Affiliate Mike Greicius used his Center on Longevity seed grant to explore a hypothesized series of connections between white matter lesions (or "hyperintensities") in the brain and behavioral impairments. These lesions are small areas of altered brain tissue that appear in MRI scans and are more frequently noticed in the brains of older individuals. Greicius' hypothesis suggests that white matter lesions may lead to disrupted structural connectivity within the brain along what are known as neural "tracks." These disruptions could then lead to functional deficits, in turn contributing to behavioral impairments. Such declines in function are what many people commonly associate with old age. With his seed grant, Greicius demonstrated a compelling correlation between white matter and cognitive abilities within a small sample of subjects and developed better methods for tracking hyperintensities. These findings suggest a more comprehensive study is warranted.

HEALTH CARE REFORM – PUBLIC SUPPORT AND PERSONAL COSTS

Daniel Kessler – David S. and Ann M. Barlow Professor and Senior Fellow at the Hoover Institution, and Professor, by Courtesy, of Health Research Policy and Law

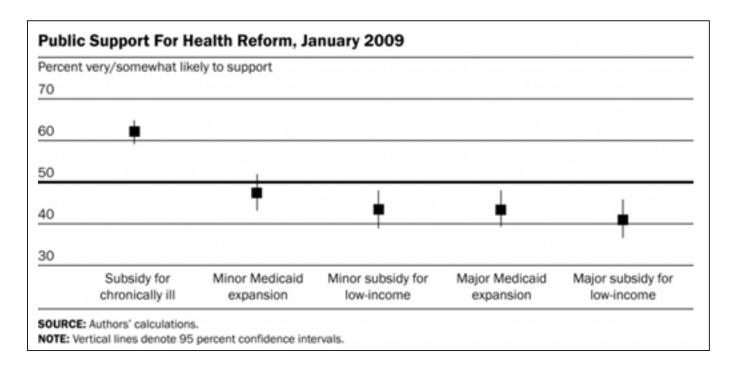
David Brady – Bowen H. and Janice Arthur McCoy

Professor in Leadership Values, Professor of Political
Science, and Senior Fellow, the Hoover Institution



Access to healthcare has been a hot topic in the news, but when the public is surveyed do they understand what

health care access means for their personal finances? Faculty Affiliates Kessler and Brady investigated how knowledge of the personal cost of healthcare reform affects consumers' decisions to support specific reforms. Kessler and Brady designed a survey that incorporated the respondents' income level into a calculation that estimated the cost of reforms to that individual - described as an increase to their income tax. As a result, participants with higher income levels were asked to pay more for the reforms than lower income respondents, which is likely how actual reforms would be implemented. The results indicated that the public's view of healthcare reform may be more nuanced than portrayed in the news. Knowledge of personal costs had a large affect on support for reforms, but some types of reforms still were favored by a majority.



RESEARCH

Postdoctoral Fellowships

Accelerating longevity research depends on supporting up-and-coming young scientists. In 2010-2011, the Center had two postdoctoral fellows whose research reflects the complex, interrelated challenges of aging. Fellows were selected based on the overall scientific merit of their projects, as well as the clarity and persuasiveness of their application. The opportunity for Fellows to experience strong mentoring, an excellent training environment, and engage in interdisciplinary research is also a part of the assessment.

Highlights of postdoctoral work:

A MOLECULAR "ODOMETER" FOR AGING

SCL Fellow: Adolfo Sanchez-Blanco

Mentor: Stuart Kim, PhD, Professor of Developmental Biology and of Genetics and, by courtesy, of Chemical and Systems Biology

SCL Fellow Adolfo Sanchez-Blanco begins presentation of his work with pictures of two Cadillacs. If you are choosing to buy one, how can you tell which will last longer? Although they look identical, their odometers may tell a different story. One may have more remaining life than the other. What, he asks, is the analogy in animals? there a biological "odometer" that can indicate remaining

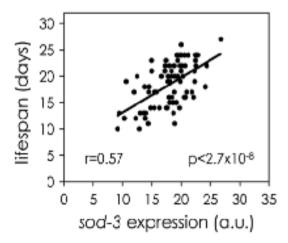


Florescent labeled genes viewed through C elegans worms

worms Is

lifespan? Typically animals, including humans, have lifespans that vary widely and unpredictably. The cause of this variation, known as stochasticity, has eluded scientists.

For his postdoctoral research, Sanchez-Blanco chose as his subject the tiny C. elegans worm. These worms can be bred to have identical genetic makeup. They also have another key property—they are transparent. To exploit this, Sanchez-Blanco used a technique known as florescent labeling to develop 8 molecular gene markers that literally glow under the right lighting and are visible through the transparent worm. The markers all typically decline with age. Sanchez-Blanco was thus able to breed worms of identical age, identical genetics, and whose key gene expression could be viewed while the worms were alive. He raised these worms under identical conditions to minimize environmental variability.



Correlation of sod-3 gene (best single correlation) expression to worm lifespan

The results were compelling. Sanchez-Blanco was able to identify two markers, that when combined, accounted for up to 49% of lifespan variation. In plain terms, he was able to show that half of the worms' lifespan variation could be predicted solely by genetic means. This type of basic research may eventually lead to better understanding of the mechanisms of aging. Upon completion of his Center on Longevity Fellowship, Sanchez-Blanco returned to his native Spain and is now continuing his genetic aging research for the Spanish National Research Council.

OWING IT TO YOURSELF

SCL Fellow: Christopher Bryan

Mentor: Gregory M. Walton, Assistant Professor of Psychology

By most estimates, the majority of Americans are not saving enough for retirement, even though they understand the consequences. A major factor in this, according to Center on Longevity Fellow Christopher Bryan, is that "People tend to see their future selves as a different person—and why would I want to give my money to that guy?"



Traditional retirement savings appeals ask people to plan for their own future, but Bryan had a different idea. He reasoned that if people tend to see themselves as different people in the future, the best approach might be to appeal to their sense of responsibility to take care of that future self. This is akin to the sense of responsibility that people feel when they care for loved ones.



In a field experiment with 193 Stanford staff members, Bryan split the participants into two groups. The first received a traditional appeal to save more for their own future well-being. The second group was asked to consider the future self as a person who was totally dependent on the subject's decision to save now. Using actual (anonymized) data from the Stanford 401K program, those who experienced the second approach increased their retirement savings contributions more that the first group.

From these results and others, Bryan has concluded that people will save more to protect that future person than they would for themselves, but with a caveat. Since people generally only feel responsible for people they're close to, this approach works best when people feel "socially" close to the future self, as one might feel toward a family member.

To hear more details about this work, please visit this site for an interview with Dr. Bryan.

More research by postdoctoral fellows

ENGINEERING A CELL CYCLE COUNTER TO STUDY REPLICATIVE AGING

Jerome Bonnet, School of Medicine Read more ▶

ADDRESSING THE CHALLENGE OF GLOBAL POPULATION AGING: THE EFFECT OF AGE ON IMMUNE RESPONSE TO TB INFECTION Read more ▶

Alicia Chang, School of Medicine

HIGH THROUGHPUT MULTIPARAMETER ANALYSIS OF HUMAN IMMUNE RESPONSES TO INFLUENZA VACCINATION Read more ▶

David Furman, School of Medicine

UNDERSTANDING CELLULAR RENEWAL AND AGING IN KIDNEY EPITHELIUM

Marina Shkreli, School of Medicine Read more ▶



PEOPLE



Leadership

Laura L. Carstensen, PhD, Director

Laura Carstensen is Professor of Psychology at Stanford, where she is also the Fairleigh S. Dickinson Jr. Professor in Public Policy. For more than 20 years her research has been supported by The National Institute on Aging, and in 2005 she was honored with a MERIT award. Carstensen is best known for socioemotional selectivity theory, a life-span theory of motivation. Dr. Carstensen's most current research focuses on ways in which motivational changes influence cognitive processing. In 2011, she authored <u>A Long Bright Future:</u>

<u>Happiness, Health, and Financial Security in an Age of Increased Longevity</u>.

Dr. Carstensen was awarded a Master Mentorship Award from the American Psychological Association in 2010. She is a fellow in a number of professional organizations, including the Association for Psychological Science, the American Psychological Association and the Gerontological Society of America. She serves on the Board of Science Advisors to the Max Planck Institute for Human Development in Germany and has chaired two studies for the National Academy of Sciences, resulting in The Aging Mind and When I'm 64. She is a member of the MacArthur Foundation's Research Network on an Aging Society.

She has been selected as a Guggenheim Fellow and received the Richard Kalish Award for Innovative Research, the Distinguished Career Award from the Gerontological Society of America, and Stanford's Dean's Award for Distinguished Teaching. She received a BS from the University of Rochester and PhD in Clinical Psychology from West Virginia University.

Thomas A. Rando, MD, PhD, Deputy Director

Tom Rando is Professor of Neurology and Neurological Sciences at Stanford. He is also Chief of Neurology and Director of the Rehabilitation Research & Development Center of Excellence at the Veterans Affairs Palo Alto Health Care System. He is a founding director of the Muscular Dystrophy Association clinic at the Stanford Medical Center.

Dr. Rando's research focuses on tissue-specific stem cells in aging and disease, and on pathogenetic mechanisms and gene therapy for muscular dystrophies. His research on aging has demonstrated that it is possible to identify biochemical stimuli that can induce stem cells in old tissues to repair injuries as effectively as in young tissues, and this work has broad implications for the fields of regenerative medicine and stem cell transplantation.

He is a member of several professional societies, including the American Neurological Association. He is a former Paul Beeson Physician Faculty Scholar in Aging awarded by the American Federation for Aging Research and a former Ellison Medical Foundation Senior Scholar in Aging. In 2005, he received an NIH Director's Pioneer Award for his groundbreaking research in stem cell biology. He received a BA from Harvard College, MD from Harvard Medical School and PhD in Cell and Developmental Biology from Harvard University.



Staff

Jill Chinen, Assistant to the Director

Jill Chinen coordinates the logistics for the Director's speaking engagements, conference, and events. She joined Stanford University's administrative staff in 2003. She has a Master's degree in education as well as a Certificate from the Japan-America Institute of Management Science.

Martha Deevy, MBA, Senior Research Scholar

Martha Deevy focuses on the Center's business strategy and key partnerships, and leads the Center's financial security work. She has more than 20 years of management experience in Silicon Valley technology and financial services companies in senior executive positions at Apple, Charles Schwab and Intuit. She received a BA from the University of Illinois and MBA in finance and management information systems from the University of Minnesota.

Margaret Dyer-Chamberlain, MALD, Managing Director & Senior Research Scholar Margaret Dyer-Chamberlain develops research and educational programs, securing funding for Center programs, assisting in cultivation of donors, and overseeing staff and consultants. She is former senior director of capital planning and space management at Stanford and associate provost at Dartmouth College. She received a BA from Smith College and Master of Arts in Law & Diplomacy from the Fletcher School of Law and Diplomacy at Tufts University.

Molly Corbett, Finance Manager

Molly Corbett joined SCL in February 2011. She is responsible for financial analysis, grants management and financial transactions. Prior to coming to the Center, Molly was a Budget Analyst at Northwestern University in the central Budget Office. Molly received a BA from the University of Massachusetts at Amherst.

Adele Hayutin, PhD, Director, Global Aging Program & Senior Research Scholar Adele Hayutin focuses on economic and policy implications of global demographic change. During a 20-year career as a business economist, she specialized in trends affecting business investment strategy. She was chief economist of the Fremont Group (formerly Bechtel Investments), senior real estate analyst at Salomon Brothers and director of research at RREEF. She received a BA from Wellesley College, and MPP in public policy and PhD in economics from the University of California, Berkeley.

Jane Hickie, JD, Director, Politics, Scholars and the Public Program & Senior Research Scholar Jane Hickie leads the Center's work to inform policy decisions that impact longevity. She formerly led the government relations practice at Public Strategies Inc., was a partner in the law firm of Verner, Lipfert, Bernhard, McPherson and Hand, and served as director of the Texas Office of State and Federal Relations and director of Appointments to Boards, Commissions and the Judiciary for the Office of the Governor. She received a BA from Mount Holyoke College and JD from the University of Texas.

Shoshana Lucich, Research Assistant

Shoshana Lucich is the research assistant for the Center's Research Center on the Prevention of Financial Fraud, which connects an array of academics, practitioners, and policy-makers in an interdisciplinary effort to combat rising fraud rates. Shoshana received her B.A. from Mount Holyoke College in English and Russian & Eurasian Studies.

Lillian Mitchell, Research Assistant

Lillian Mitchell supports the Global Aging and the Politics, Scholars, and the Public programs. In 2009 and 2010 she worked on the New Realities report and Planning to Stay book project. Her contributions range from policy analysis to data visualization. She joined the Center in 2008 after receiving a BA in human biology from Stanford.

David Pagano, Webmaster

David Pagano manages the Center website, coordinates online outreach efforts and designs materials that help inform audiences about the Center's work and longevity issues. He joined the Center in 2006. He studied at the University of Oregon and San Francisco State University.

Chris Peacock, Director, Communications and Public Affairs

Chris Peacock is responsible for communicating with media, opinion leaders and policy makers about the Center. He has developed communications and marketing programs in the corporate, foundation and government worlds, including serving as a communications advisor to the secretaries of Treasury and Health & Human Services, the Henry J. Kaiser Family Foundation, Silicon Valley Community Foundation and Cisco Systems Inc. He received a BA from Washington & Lee University.

Ken Smith, MS, Director, Academic and Research Support & Senior Research Scholar Ken Smith focuses on the identification and management of key research areas and opportunities for the Center, and works closely with faculty affiliates to determine where Stanford expertise can best be used to drive change. He has more than 20 years of management and engineering experience encompassing positions in the computing, aerospace and solar energy industries, including Intel Corporation's network of university research labs. He received a BS from the University of Illinois and MS in engineering from the University of Washington.

Sharon Vazquez, Administrative Assistant (Deceased June 2011)

Sharon Vazquez was the administrative associate for the Center on Longevity from 2007 until her death this year. Sharon made many contributions to our work and to our lives, and she is deeply missed.

External Advisory Council

John W. Rowe, Council Chair, Professor, Columbia University Mailman School of Public Health Jack Rowe is a professor in the Department of Health Policy and Management at the Columbia University Mailman School of Public Health. Previously, he served as chairman and CEO of Aetna Inc., one of the nation's leading health care and related benefits organizations, from 2000-2006. He received an MD from the University of Rochester School of Medicine and Dentistry and BS from Canisius College.

Katherine August-deWilde, President and Chief Operating Officer, First Republic Bank Katherine August-deWilde has been an executive with First Republic Bank since 1985. First Republic, a commercial bank specializing in private banking and wealth management, brokerage and trust, is based in San Francisco, CA. She received an AB from Goucher College and MBA from Stanford.

Kenneth J. Bacon, Executive Vice President, Fanny Mae Multifamily Mortgage Business Ken Bacon is responsible for Fannie Mae's Multifamily Mortgage business. Bacon has an MBA from the Harvard Business School, an MS in international relations from the London School of Economics where he studied as a Marshall Scholar, and a BA from Stanford University.

Pat Christen, President and CEO, HopeLab

At HopeLab, Pat Christen engages a multidisciplinary team developing products and practices that improve the lives of young people with chronic illness. She has written, studied and lectured on social and health issues in the United States and abroad, and is a member of the Young Presidents' Organization. She received a BA from Stanford.

Lawrence Hershfield, Chief Executive Officer, Ranch Capital

Larry Hershfield is chief executive officer of Ranch Capital, a private equity firm he founded in 2002, and is chairman of Hawaiian Holdings, the parent company of Hawaiian Airlines, and chairman of Premier Entertainment Biloxi, which owns the Hard Rock Hotel and Casino in Biloxi, MS. He received a BS from Bucknell University and MBA from Stanford.

Natalie Naftzger Davis, Civic Leader

Natalie Naftzger Davis graduated from Stanford in 1978 in International Relations, and earned her JD from the University of Southern California in 1982. She was a litigation and antitrust partner at Sheppard, Mullin, Richter & Hampton in Los Angeles and currently serves on a range of civic boards.

James A. Johnson, Vice Chairman, Perseus

James A. Johnson is Vice Chairman of Perseus and formerly was at Fannie Mae, Lehman Brothers and Public Strategies. He has been a key adviser at the federal level on domestic, foreign policy and political matters. He has a B.A. in Political Science from the University of Minnesota and an MPP from the Woodrow Wilson School at Princeton University.

Scott W. Kerslake, President, prAna

Scott W. Kerslake is president of prAna, a leading consumer brand in yoga, rock climbing and active outdoor living, and maintains ownership of Carrot Centers for Brain and Body Vitality, a progressive wellness organization focused on helping people over 50 age optimally. He received a BA from Boston College.

Irene Mecchi, Writer

Irene Mecchi is an American writer who has written for print, television, live-action film and theatre. Her feature film writing credits include Disney's The Lion King, The Hunchback of Notre Dame and Hercules. Mecchi received a BA from the University of California, Berkeley, and continued her studies at the American Conservatory Theatre in San Francisco.

Thomas E. Moore III, Director, Barclays Wealth

Thomas Moore is a director with Barclays Wealth, specializing in advising wealthy families, foundations and charitable organizations on investment and financial matters. He has more than 25 years of banking and investment experience. He received a BA from Stanford.

Steve Poizner, Co-Founder and CEO, Encore Career Institute

Steve Poizner is a high tech entrepreneur with over two decades of starting and running technology companies in Silicon Valley. Currently, he is the Co-Founder and CEO of the Encore Career Institute. He served as California Insurance Commissioner from 2007 to 2011. He received a BA from University of Texas at Austin and MBA from Stanford.

George P. Shultz, Former U.S. Secretary of State

George Shultz has had a distinguished career in government, academia and business. He held four different cabinet posts, taught at three preeminent universities, and was president of a major engineering and construction company. He received a BA from Princeton University and PhD in industrial economics from MIT.

Ann Bennett Spence, Managing Director, Cambridge Associates, LLC

Ann Bennett Spence joined Cambridge Associates LLC, a global investment consulting firm that works with endowed institutions and family offices, nearly 29 years ago. She received a BA from Wellesley College, MA in East Asian Studies from Harvard University and MBA from Stanford.

No

Norman H. Volk, Chairman, The John A. Hartford Foundation

Norman Volk has been a member of the board of The John A. Hartford Foundation since 1979, and was elected president in 1997 and chairman in 2002. He has been president of Chamberlain & Steward Associates, Ltd., an asset advisory firm, since 1985. He received a BA from Indiana's Valparaiso University, MA from Marquette University in Milwaukee and Honorary Doctor of Law Degree from Valparaiso.

David A. Wise, Professor Emeritus, Harvard University Kennedy School of Government David Wise is John F. Stambaugh Professor of Political Economy, Kennedy School of Government at Harvard University, and he directs a large project on the economics of aging and health care at the National Bureau of Economic Research. He has an MA in statistics and PhD in economics from the University of California, Berkeley.

Faculty Steering Committee

Thomas Andriacchi, PhD, Professor of Mechanical Engineering and Orthopaedic Surgery Tom Andriacchi's research focuses on the biomechanics of human locomotion and its biomedical applications to artificial joints, sports injury, osteoarthritis and neuromuscular disorders.

William Damon, PhD, Professor of Education

Bill Damon, director of the Stanford Center on Adolescence, studies moral development through the life-span. He has begun a study on the development of purpose during adolescence and is conducting research on how young professionals can learn to do work that is both highly masterful and highly moral.

Alan M. Garber, MD, PhD, Professor of Medicine/Economics/Health and Research Policy Alan Garber is director of the Center for Health Policy/Center for Primary Care and Outcomes Research. His research focuses on methods for improving health care delivery and financing, particularly for the elderly, in settings of limited resources.

Larry Kramer, JD, Dean, Stanford Law School/Professor of Law Larry Kramer's work is directed toward state-state and state-federal confict of laws, federalism and its history, and the role of courts in society.

Iris F. Litt, MD, Professor Emerita of Pediatrics

Iris Litt is director of the Center for Advanced Study in the Behavioral Sciences. Her research focuses on health problems of adolescent women, in particular the interaction of psychosocial phenomena with biologic features of the second decade of life, including the effects of eating disorders.

Pamela Matson, PhD, Dean, School of Earth Sciences/Professor of Environmental Studies Pam Matson's research focuses on biogeochemical cycling and land/water interactions in tropical forests and agricultural systems, and on sustainability science.

Margaret Neale, PhD, Professor of Organizations and Dispute Resolution, Graduate School of Business

Maggie Neale studies negotiation and team performance; judgment and decision-making research from cognitive psychology to the field of negotiation; cognitive and social processes that produce departures from effective negotiating behavior.

John Shoven, PhD, Professor of Economics

John Shoven is director of the Stanford Institute for Economic Policy Research. His research focuses on tax policy, Social Security and savings patterns, focusing on private and public sector policies that can be changed for the better.

Faculty Affiliates

Jennifer Aaker, PhD - Professor of Marketing

Hamid Aghajan, PhD - Professor of Electrical Engineering

Scott Atlas, MD - Professor of Radiology

Thomas Andriacchi, PhD - Professor of Mechanical Engineering/Orthopaedic Surgery

Steve Artandi, MD, PhD - Assistant Professor of Medicine

Jeremy Bailenson, PhD - Assistant Professor of Communication

Albert Bandura, PhD - Professor Emeritus of Psychology

Clifford Barnett, PhD - Professor Emeritus of Anthropological Science

Jonathan Berger, PhD - Professor of Music

B. Douglas Bernheim, PhD - Professor of Economics

Jay Bhattacharya, MD, PhD - Associate Professor of Medicine

Coit Blacker, PhD - Professor of Political Science

Helen Blau, PhD - Professor of Medicine

Walter Bortz, MD - Adjunct Clinical Associate Professor of Medicine

Gordon Bower, PhD · Professor Emeritus of Psychology

David Brady, PhD - Professor of Political Science

Anne Brunet, PhD - Assistant Professor of Genetics

Kate Bundorf, MBA, MPH, PhD - Assistant Professor of Health Research and Policy

Chang-Zheng Chen, PhD - Professor of Microbiology/Immunology

C. Page Chamberlain, PhD - Professor of Environmental Earth System Science

Glenn Chertow, MD, MPH - Professor of Nephrology

Katrin Chua, MD, PhD - Assistant Professor of Medicine

Karen Cook, PhD - Professor of Sociology

Linda Cork, PhD - Professor of Comparative Medicine

William Damon, PhD - Professor of Education

Scott Delp, PhD - Professor of Mechanical Engineering/Orthopaedic Surgery

Carol Dweck, PhD - Professor of Psychology

Harry Elam, Jr., PhD - Professor of Drama

Alain Enthoven, PhD - Professor Emeritus of Public and Private Management

James Fishkin, PhD - Professor of International Communication/Political Science

Mike Fredericson, MD - Professor of Orthopaedic Surgery

Lawrence Friedman, JD - Professor of Law

James Fries, MD - Professor of Immunology and Rheumatology

Victor Fuchs, PhD - Professor Emeritus of Economics

Dolores Gallagher Thompson, MD - Professor of Medicine

Alan Garber, MD, PhD - Professor of Medicine/Economics/Health and Research

Christopher Gardner, PhD - Associate Professor of Medicine

Gary Glover, PhD - Professor of Radiology/Electrical Engineering/Psychology

Garry Gold, MD - Associate Professor of Radiology

Jeremy Goldhaber-Fiebert, PhD - Assistant Professor of Medicine

Mary Goldstein, MD - Professor of Medicine

Stuart Goodman, MD - Professor of Orthopaedic Surgery/Orthopaedics

lan Gotlib, PhD - Professor of Psychology

Hank Greely, JD - Professor of Law

Harry Greenberg, MD - Professor of Medicine

Michael Greicius, MD, MPH - Assistant Professor of Neurosurgery



James Gross, PhD - Professor of Psychology

William Haskell, MD - Professor of Medicine

Albert Hastorf, PhD · Professor Emeritus of Human Biology and Psychology

Cathy Heaney, PhD - Associate Professor of Psychology and Medicine

H. Craig Heller, PhD · Professor of Biological Sciences

Stefan Heller, PhD - Professor of Otolaryngology

Victor Henderson, MD - Professor of Health Research and Policy/Neurology/Neurological Sciences

Andrew Hoffman, MD - Professor of Medicine

Ron Howard, PhD - Professor of Management Science/Engineering

Ting-Ting Huang, PhD - Assistant Professor of Neurology and Neurological Sciences

James Holland Jones, PhD - Assistant Professor of Anthropological Sciences

Mark Kelman, JD - Professor of Law

Daniel Kessler, JD, PhD - Professor of Management/Law/Health Research and Policy

Stuart Kim, PhD - Professor of Developmental Biology/Genetics/Chemical and Systems Biology

Sun Kim, MD - Assistant Professor of Medicine

Abby King, PhD - Professor of Health Research and Policy/Medicine

Scott Klemmer, PhD - Assistant Professor of Computer Science

Brian Knutson, PhD - Associate Professor of Psychology

Frederic Kraemer, MD - Professor of Endocrinology

Larry Kramer, JD · Dean, School of Law

Roderick Kramer, PhD - Professor of Organizational Behavior

Eswar Krishnan, MD, M.Phil - Assistant Professor of Medicine

Jon Krosnick, PhD - Professor of Communication

John Krumboltz, PhD - Professor of Education/Psychology

Larry Leifer, PhD - Professor of Mechanical Engineering

Marc Levenston, PhD - Associate Professor of Mechanical Engineering

Iris Litt, PhD - Professor Emerita of Pediatrics

James Lock, MD, PhD - Professor of Psychiatry and Behavioral Sciences

Kate Lorig, PhD - Professor of Medicine

Bingwei Lu, PhD - Assistant Professor of Medicine

Tanya Luhrmann, PhD · Professor of Anthropology/Psychology

William Maloney, MD - Professor of Orthopaedics

Ellen Markman, PhD - Professor of Psychology

Pamela Matson, PhD - Dean, School of Earth Sciences

Yoshiko Matsumoto, PhD - Associate Professor of Japanese Language and Linguistics

Samuel McClure, PhD - Assistant Professor of Psychology

Debra Meyerson, PhD - Associate Professor of Education

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Lorene Nelson, PhD - Associate Professor of Health Research and Policy

Ruth O'Hara, PhD - Assistant Professor of Psychiatry/Behavioral Sciences

Ingram Olkin, PhD - Professor of Statistics/Education

Alan Pao, MD - Professor of Nephrology

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John Perry, PhD - Professor of Philosophy

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Gerald Reaven, MD - Professor Emeritus of Medicine

Byron Reeves, PhD · Professor of Communication

Tony Ricci, PhD - Associate Professor of Otolaryngology

Tom Robinson, PhD - Associate Professor of Pediatrics/Medicine

William Robinson, PhD - Assistant Professor of Medicine

Jessica Rose, PhD - Professor of Orthopaedic Surgery

Lee Ross, PhD - Professor of Psychology

Kenneth Salisbury, PhD - Professor of Computer Science/Surgery

Richard Saller, PhD - Dean, School of Humanities and Sciences

Juan Santiago, PhD - Assistant Professor of Mechanical Engineering

Robert Sapolsky, PhD - Professor of Biological Sciences/Neurosciences

Stanley Schrier, MD - Professor Emeritus of Medicine

William F. Sharpe, PhD - Professor of Finance

Kathryn Shaw, PhD - Professor of Economics

Baba Shiv, PhD - Associate Professor of Marketing

John Shoven, PhD - Professor of Economics

Robert Lane Smith, MD - Professor of Orthopaedic Surgery/Mechanical Engineering

Samuel So, MD · Professor of General Surgery

Jeanne Tsai, PhD - Associate Professor of Psychology

Shripad Tuljapurkar, PhD - Professor of Population Studies and Biological Sciences

Anthony Wagner, PhD - Associate Professor of Psychology
Michael Wald, JD - Professor of Law
Brian Wandell, PhD - Professor of Psychology/Electrical Engineering
Carol Winograd, PhD - Professor Emeritus of Medicine
Terry Winograd, PhD - Professor of Computer Science
Paul Wise, MD, PhD - Professor of Medicine
Tony Wyss-Coray, PhD - Associate Professor of Neurology/Neurological Sciences
Jerome Yesavage, MD - Professor of Psychiatry and Behavioral Sciences
Paul Yock, MD - Professor of Medicine
Jamie Zeitzer, PhD - Assistant Professor of Psychiatry and Behavioral Sciences
Stefanos Zenios, PhD - Professor of Operations, Information and Technology

Additional Academic Affiliates

Wesley Alles, MD - Senior Research Scholar

Dena Bravata, MD - Stanford Health Policy Affiliate

Karen Eggleston, PhD - Center Fellow, Freeman Spogli Institute for International Studies

Leah Friedman, MD - Senior Research Scholar

Rita Ghatak, PhD - Director, Aging Adult Services, Stanford University Medical Center

Kathryn M. McDonald, MM - Executive Director & Senior Scholar, Center for Health Policy

ON CAMPUS

STUDENT PRACTICUM – "YOUR LIFE, STARTING NOW" In the Fall of 2010, the Center on Longevity created an undergraduate student practicum course in which students were encouraged to select a topic of their choice related to longevity and then draw on the resources of the Center to explore this topic. Students interviewed experts throughout the quarter and blogged about their experiences and insights. The blogs are featured on the Center's website and comments are encouraged from the public and from experts across the country. The Center continued this effort during the Winter and Spring Quarters of 2011, with students blogging on topics ranging from extreme longevity to cognitive health to financial security.



Salina Truong: Financial Security
As a college senior who, in just 5 months time, is about to be "grown up" for the first time, the most pressing question on my mind is: "How am I going to afford it?!" Visit blog



Stephen Henderson: Music and Memory My passion for music and my understanding and love for my elders has fueled my undergraduate research in sacred ritual music, memory, and Alzheimer's disease. Visit blog



I believe that we can live without almost anything except relationships with others. I'd like to understand why these relationships have such strong impacts on health. Visit blog

Allison Lopez: Relationships and Mental



Brandon Whale: Long Life
My focus in this class will be on the variety
of ways people pursue a long lifespan.
Currently, scientists are looking into the
effectiveness of genetic predispositions,
environmental factors, supplements, and
diet in determining longevity. Visit blog



Nikki Yates: Mind, Body and Fitness
I found myself feeling concerned by the general lack of motivation to exercise and eat right among many Americans. The information exists and it's out there, but why don't more people utilize it?
Visit blog



Ariel James: Cognitive Aging
There is a pervasive belief that as
we age, we begin to lose our mental
capabilities, from remembering names
of new acquaintances to solving complex
mathematical problems. Yet, as life
expectancies and retirement ages climb
higher, demands on our mental capacities
continue into old age. Visit blog

"THE NEW LONGEVITY" This new course examines adult development from the perspective of life-span theory — a conceptual framework that views development as a series of adaptations to physical, societal and individual resources and constraints. Students learn about demographic and medical changes, and ways that individuals typically change socially, emotionally and cognitively as they move through adulthood. Students also gain an understanding of the conceptual foundations of the life-span approach and place aging of young people today in historical context.

As part of the course, each student moderates their own blog.



Natasha Avery - I am interested in investigating how creativity (specifically literary creativity) changes and is affected by aging. Visit blog



Emma Makoba - How will we address the increasing burden of chronic disease in the aging populace, while not abandoning the infectious diseases that still ravage the population? Visit blog



Caitlin Eggleston - Through this blog I hope to delve into some of the myths and issues surrounding aging and happiness with a specific emphasis on depression. **Visit blog**



Karla Jimenez - I'm particularly interested in writing about the psychology of sex and aging.
Visit blog



Alicia Kriewall - I plan to look at aging in Russia, India, the US, Germany, Brazil, Japan, and China. Visit blog



Amy Berliner - Gender and age interact in so many ways, but for this blog I will be exploring the intersection of motherhood and longevity. Visit blog



Matthew Mau - Although I've focused on early development, I am currently studying longevity and human development throughout the lifespan. **Visit blog**



Vivian Nguyen - I plan to explore the differences I research and encounter in my own life between aging in the Asian and Asian-American culture and other cultures. **Visit blog**



Jeremy Schreier - My positive experiences with and inspiration from elder people, combined with my growing interests in psychology and neuroscience, have influenced the topic of this blog. Visit blog



Kelly Vicars - It seems to me that our society's current framework for adolescence might not allow kids to grow up in the ways they need to. Visit blog



Alyssa Wisdom - Follow me as I take this fascinating journey exploring the ways longevity and aging differ across cultural boundaries! **Visit blog**



Dana Wyman - Recently, improvements in sequencing technology have made analyzing a person's genome much faster, cheaper, and more accurate. **Visit blog**

WORKING TOGETHER...



he remarkable speed with which the Stanford Center on Longevity was established reflects a generous founding gift from Stanford alumnus Richard Rainwater, who recognized one of the most urgent needs of our time: adapting our society to a rapidly aging population. His gift enabled the Center to begin immediately with a core staff and with key programs in place.

Going forward, the Center's work continues to benefit from individuals and organizations that recognize the importance and urgency of redesigning long life. During 2010-2011, the Center received generous funding from individual donors as well as from the Stephen F. Bechtel Fund, the MacArthur Network on an Aging Society, the Home Depot Foundation, the National Institute on Aging, and the U.S. Institute of Museum and Library Services under the provisions of the Library Services and Technology Act, administered in California by the State Librarian.

TO MEET THE CHALLENGE

Gifts help the Center embark on new research projects, develop educational programs, collaborate with faculty and disseminate research findings so they can be put into practice. To discuss opportunities for partnering with the Center, please contact:

Margaret Dyer-Chamberlain, Managing Director

Email: mdyerc@stanford.edu

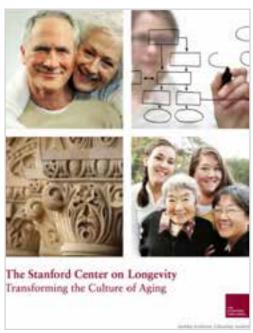
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Gifts to the Stanford Center on Longevity are tax-deductible under applicable rules. The Center is part of Stanford University's tax-exempt status as a Section 501 (c) (3) public charity.



Download Development Brochure



66 The challenge of reinventing old age may be the greatest social revolution the baby boom generation ever faced. ""

> Laura Carstensen, from A Long Bright Future: Happiness, Health, and Financial Security in an Age of Increased Longevity

The Stanford Center on Longevity asks the questions, convenes the experts and conducts the research that will help all of us - young and old alike - prepare.









