



STANFORD
CENTER ON
LONGEVITY

ANNUAL REPORT - FY 18-19

Dear Friends,

The past year included an active conference and workshop agenda, the publication of a number of papers, and the launch of the Center's New Map of Life™ (NMOL) initiative. We continue to organize our work within three research divisions – Mind, Mobility and Financial Security – as we dive deeper into domains such as early childhood, education, environment, financial security, fitness, healthcare, intergenerational interactions and work. We work closely with collaborators at Stanford and around the world, with the goal of making sure that research findings do not stay locked away in academia but instead reach the people who can most benefit from them. We continue to be sought after for expert input, and are regularly featured in leading media outlets.

Our conferences and workshops over the course of the year covered topics such as: promoting social engagement using emergent technologies, fraud prevention, family decision-making around life-threatening illness, and envisioning a “new map of life.” Our annual Design Challenge, “Contributing at Every Age: Designing for Intergenerational Impact” was very successful, and featured three events over the course of the year – an ideation workshop and kick-off event in the fall and a finals event in the spring. Our distinguished lecturer was Jonathan Rausch, author and senior fellow in governance studies at the Brookings Institution, who shared observations and insights related to his best-selling book, “the Happiness Curve: Why Life Gets Better After Midlife.

Stanford Center on Longevity's New Map of Life™ initiative aims to envision a society that supports people to live secure and high-quality lives for a century or more. This new initiative will research and define new models for education and lifelong learning, redesign how we work, advise new policies for health care, housing, the environment and financial security, and promote more intergenerational partnerships. It will also advance a new narrative, which redefines what it means to be “old” and values people at different stages of life. Media outlets, advertisers and the entertainment industry will play an important role in this effort by sharing stories and creating new imagery and content about longevity and aging.

The Corporate Affiliates program has continued to grow, and we are grateful for our corporate collaborators. SCL benefits enormously from an engaged Advisory Council, chaired by Jim Johnson. It is a privilege for all of us at the Center to work together with the Stanford faculty, students and postdoctoral fellows who shape our research agenda and make our work possible.

Director, Stanford Center on Longevity

MIND DIVISION *Amy Yotopoulos, Director*

The Mind Division continues to focus on the areas of engagement, decision-making, perception, and cognitive health. Much of the effort of the Mind Division has been focused on developing the Sightlines Social Engagement focus report, and we continue to work with Tamara Sims on this project. The report is to be published late next year and will be reported separately.

Social Engagement

On October of 2018, we held our “Harnessing the Power of Emerging Technologies to Promote Social Engagement” launch conference. The aim of the day was to identify areas for future research as currently, limited research has examined the impact of social technology use across generations and the related effects on social engagement. The opening presentation titled “Overview of Social Media and Tech Use: What do we know and what do we need to know?” was delivered by Faculty Affiliate Dr. Jeff Hancock, who is also the head of The Social Media Lab at Stanford.

The morning had two discussion sections: “Social Technology and Well-being in the Individual” and “Social Technology and Social Engagement in Varying Contexts.”. The afternoon sessions included a brainstorming session of the problems, issues, and potential research needed in this area, led by Ken Smith, and we closed with setting a research agenda and next steps with Laura Carstensen and Jeff Hancock. As is typical of our conferences, attendees included several technology companies as well as academics and advocacy groups.

Presentations

December 6, 2018: The EndWell Conference in San Francisco. Faculty Affiliate Jeremy Bailenson gave a talk about using VR to help with medical decision-making and create better end of life experiences.

Family Decision-Making Surrounding Life-Threatening Illness

Updates on our work in this space include:

- SCL is hosted two Visiting Scholars from Japan whose work focuses on end-of-life issues. Dr. Mariko Shiozaki and Dr. Kouhei Masumoto are currently conducting research on cognitive bias in decision-making in older adults, with special attention to satisfaction and regret about choices. They plan to characterize decision-making processes during the end-of-life stage by verifying constituent elements of happiness and regret, as well as the influence of aging in the context of cultural differences.
- We participated in Stanford’s Palliative Medicine Department Strategic Planning retreat, and continue to discuss ideas to develop and submit a PO1 grant together.

Staff, Student and Other Updates

- We oversaw the Fall quarter of Psych 189 (our Practicum course for undergraduates), creating the syllabus and designing the content, schedule and deliverables. We met weekly with students as they work on in-depth assignments with our staff. Our students have been primarily helping us with our Social Engagement Compendium.
 - In addition, we coordinated the Fall quarter Emeriti Lecture, where Dr. Linda Hawes Clever presented to our Emeriti Council members in October on the topic of renewal.
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Stanford Center on Longevity Design Challenge

Cooper-Hewitt (Smithsonian) Design Museum Engagement

RideRite, the winner of the 2018 Design Challenge, was included in the Cooper-Hewitt exhibit “Access+Ability”, which ran throughout the summer. EatWell Dishware, the winner of the 2014 challenge, continues its exhibition in another part of the museum, with dishware sets sold in the gift shop. Special thanks to Advisory Council member Rick Smith for the introduction to Cooper-Hewitt.

2019 Design Challenge: “Contributing at Every Age: Designing for Intergenerational Impact”

The 2019 Stanford Longevity Design Challenge Finals on April 16th resulted in our first-ever cochampions, with Family Room from Stanford and So You Think You Know Grandma? each taking home a \$10,000 first prize. Pillow Fight from Shih Chien University in Taipei captured the \$2000 third prize. The event was again a full house, with approximately 200 people attending.

This year’s topic “Contributing at Every Age: Designing for Intergenerational Impact” resulted in a best-ever 97 submissions from 59 universities in 24 different countries. An additional requirement was placed on the teams to include a contributing team member outside of their own generation. There was a significant diversity in the approaches taken to the topic, as evidenced by the eight Finalist teams:

- **Enrich** (Virginia Tech)– An intergenerational service helping tackle social isolation and promoting healthy habits through community engagement and gardening.
- **Family Room** (Stanford University)– A low barrier-to-use app helping families capture and share the histories of their older loved ones through high quality audio stories.
- **I2 Housing** (New York University)– A program and related app targeting the issues of student debt and isolation in the older population with a single solution built around shared intergenerational housing.
- **Invite** (San Francisco State) – A platform connecting residents of all ages in mobile home parks around activities they would typically do alone.
- **Pillow Fight** (YuanZe University, Taipei)– A video game designed to allow people of all ages to play together by embedding the game controls in throw pillows.
- **Mr. Tough** (Shih Chien University, Taipei)– A video game using simplified instruments and familiar songs to teach players to play music together.
- **Smart Volunteer System** (Stieglitz State Academy of Art and Design, St. Petersburg)– A system connecting seniors with a network of volunteers through an electronic bracelet, while providing security for the senior.
- **So you think you know your Grandma?** (University of California, Berkeley) – A storytelling-based card game specifically targeted at breaking barriers between members of different generations due to differences in mindsets, views, and perceived stereotypes.

In addition to the competition itself, the Finalists received a tour of Stanford, including being hosted by the dSchool. They also traveled to the B8ta store in Palo Alto (a new retail store where innovators can try out their products with the public), where they had a chance to try some cutting edge products and hear from the founders of Activ5 (one of the B8ta store offerings) about the experience of developing a new product into company. They also attended a workshop co-hosted by SCL and the Center for Entrepreneurial Studies at the Stanford Graduate School of Business, where they learned to create a business plan template for their design.

African Outreach

As discussed in the June 2018 Advisory Council meeting, a special effort was made to reach out to African universities, which heretofore have not been represented in the challenge. This outreach occurred through personal connection and placing the Challenge on a number of 2 global design outreach platforms. The approach succeeded beyond expectation, as 39 teams from 20 different African countries registered.

The strong African response only resulted in 4 full submissions, however, indicating that while we now have the ability to reach African students, additional structure is needed to help them move to execution. With assistance from Distinguished Careers' Institute Fellow Yasmin Halima, SCL has begun exploration of a possible "Design Challenge Africa" – a potential "satellite" challenge held on the continent working with an African academic partner organization. If sponsorship can be procured, a kick-off meeting will be held in April adjacent to the Finals.

2020 Design Challenge

For the upcoming year, the challenge will be centered on the topic "Reducing the Inequity Gap: Designing for Affordability". With this challenge, we hope to highlight the need to design products and services that are accessible by people from all levels of socio-economic status. The types of designs that can be submitted will be exceptionally wide – we will be using the points of change identified by the New Map of Life program as a guide.

In addition to the NMOL, this challenge is inspired by the Design for Extreme Affordability class offered jointly by the Stanford dSchool and GSB. For more on this class and some of the resulting projects, visit <https://extreme.stanford.edu/>. As always, the Challenge will be underwritten with corporate sponsorships. Please contact Ken Smith if you have contacts at companies that may be interested in sponsoring this year's challenge.

Sedentary Behavior Update

Beginning with a seminal workshop hosted at Stanford in 2010, the Center has been involved in research to identify sedentary behavior as a health risk separate and distinct from lack of exercise. What was then a novel idea has now become part of popular knowledge ("sitting is the new smoking").

Dr. Mary Rosenberger represented SCL at a global workshop updating Sedentary Behavior Science. Dr. Rosenberger and Ken Smith co-authored a white paper summarizing the findings. Notably, scientists have begun to identify the potential biological pathways involved in sedentary behavior. This paper can be downloaded on the SCL website at: <http://longevity.stanford.edu/2018/09/17/2018-update-state-sedentary-behavior-science/>.

Lifestyle Medicine Center

The Lifestyle Medicine Center (LMC) is the brainchild of two Stanford School of Medicine faculty; Mike Fredericson and Lynn Yudofsky. Dr. Fredericson is a Professor of Orthopaedic Surgery, Head Team Physician for Stanford Sports, and a nationally known leader in Sports Medicine. Dr. Yudofsky is an Assistant Professor of Psychiatry whose work has focused on the effects of physical activity on the brain.

The ultimate goal of the LMC is to create and share evidenced-based guidelines for how to best achieve maximal wellness in individuals, primarily through physical activity. The center may eventually include other aspects of lifestyle, including nutrition and sleep.

The plan is for the LMC to be "embedded" within SCL, as its goal of maximizing long and healthy lives fits well with the SCL's mission. This positioning will give SCL significant expertise and faculty engagement in an area that has long been important to SCL, while allowing LMC to launch with minimal administrative burden. The effort will begin with the construction of a Lifestyle webpage on the SCL website, where we will be highlighting important research in the field. This may provide a model for future collaborations with other research centers. The LMC has already named a fellow for participation in the New Map of Life Fellows program.

FINANCIAL SECURITY DIVISION

Martha Deevy, Director; Steve Vernon, FSA; Marti DeLiema, PhD

Retirement

Publication of “Retirement Game-Changers: Strategies for a Healthy, Financially Secure, and Fulfilling Long Life.” The book targets older workers to help them transition into retirement, however defined. It cites research from Stanford/SCL and quotes Laura Carstensen, Amy Yotopoulos, Marti DeLiema and a handful of other Stanford researchers. It has been widely covered in the press, including CBS Radio, CNBC, Chicago Tribune, Forbes, Investopedia, Kiplinger’s, MSN.com, Next Avenue, Reuters, Ric Edelman show, Retirement Income Journal, USA Today, U.S. News and World Report, Wharton Business Radio.

Viability of the “Spend Safely in Retirement Strategy”

Completion of the latest project and collaboration with the Society of Actuaries. This report analyzes a straightforward method for middle-income workers to generate retirement cashflow from virtually any IRA or 401(k) plan. It will help them address the critical decisions described above, specifically when to retire and how to deploy their savings in retirement. The final report was published in May 2019, and we are planning a robust outreach campaign.

Publications

- “Redesigning Work and Retirement in the Age of Increased Longevity” for WorldatWork
- Two articles published in March and April by the International Foundation of Employee Benefit Plans, titled “Beyond Defaults: Using Behavioral Economics to Improve Retirement Outcomes,” and “Using Behavioral Economics to Improve Health Outcomes.”

Financial Fraud

Better Business Bureau’s Scam Tracker

The Center is wrapping up a research study funded by the FINRA Investor Protection Foundation in collaboration with the Better Business Bureau’s Institute for Marketplace Trust. We surveyed 1,400 individuals who reported a scam to the Better Business Bureau’s Scam Tracker website. The goal of the study was to uncover the process of fraud victimization and understand the factors associated with losing money. In July we will co-author a research brief summarizing the study’s highlights and providing recommendations for more effective public education.

GSA Workshop

The Center is collaborating with the Gerontological Society of America (GSA) to host a second workshop for early career social scientists who wish to collaborate with the private sector on a research project. This training workshop will take place at GSA’s annual scientific meeting in Austin, TX next November. We will feature speakers from industry and academics who have forged successful research partnerships with private industry. Accepted trainees will practice presenting their research ideas to “mentors” from the private sector who will help them refine their research pitch and brainstorm strategies for engaging with industry. This annual workshop is funded by a grant from the National Institute on Aging.

Conversation Guide

Working with Steve Vernon, Dr. Marti DeLiema was awarded partial funding by the Society of Actuaries for a project to develop and test a Conversation Guide that will ease adults into discussing future money management with their loved ones. The aim is for adults to identify and document a trusted surrogate decision-maker to reduce the likelihood of fraud and financial exploitation in the future. Marti and Steve are seeking additional funding to cover the full cost of this project.

Goal of initiative

“To envision a society that supports people live satisfying, engaged and financially secure lives for 100 years”. To fully reap the gift of longevity a new map of life is needed from early to late life. The five-year initiative, called The New Map of Life™, was launched at an inaugural meeting in late September 2018.

Interdisciplinary collaboration

At the meeting a group of over 50 experts spanning public, private and nonprofit sectors along with top academic experts discussed what high-quality, century-long lives may look like. Conversations structured around seven domains – early life, education, environment, financial security, health, social influences and work – were considered through the lens of government and policy considerations, science and technology, gender and social status, disability and culture and norms. The discussion objective was to understand better how these domains intersect and influence one other as people live very long lives. Key issues and questions to which answers are needed were identified in order to guide research and inform public policies.

Consensus on key issues:

- The importance of early life – determinants of future health begin early in life so there is a need to promote longevity in policies addressing early life
- The value of intergenerational and social connectedness and the need for a new generational compact
- The need for cultural changes that can shape policies, norms and environments for century long lives
- Re-imagining the possibilities that age affords
- Changing the narrative - re-defining what it means to be old; moving from a focus on chronological age and generational labels
- The need to address structural inequities
- A new map of work and strategies for older workers; re-thinking the pay and benefits trajectory and the impact of many careers and continuous re-training
- Aligning education with the full life span - education policies which engage and prepare young people for the world
- Improving healthy aging with affordable, accessible, and appropriate health care
- Thinking about the when, where, and how we die
- Focus on community building and collective purpose versus individualism
- How the built and natural environment can mitigate or exacerbate functional or spiritual impairment
- The need to improve financial literacy, re-evaluate impact of longevity on financial planning

Next steps for the New Map of Life™ initiative

- **Prioritization of 2050 “Grand Challenges”**: frame the direction and priorities for the initiative, with input from the coalition of experts, based on an agreed set of “Grand Challenges” for feasible change by 2050 in each of the seven domains
 - **Establish a Post-Doctoral Fellows program**: appoint an interdisciplinary cohort of postdoctoral Fellows to explore the Grand Challenges and domain areas in more depth. (see below)
 - **Develop broad communications strategy**: work to change the global conversation from one about the crisis of aging to one about long life and proactive planning for century long lives
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- **International collaboration:** build on the research and the recommended scientific, behavioral and cultural changes. A global convening will be hosted at the Rockefeller Foundation sponsored Bellagio Center in September 2019 – “A global agenda for the new map of Life – preparing the world for longer, healthier more fulfilled lives”. The goal is to create a global framework and principles to act as a platform to inform regional application
- **Strategic steering group:** establish a small group of faculty (Stanford, US and international) to act as an interdisciplinary advisory group for the overall initiative.

New Map of Life™ Fellows Program

One of the first steps to operationalizing the New Map of Life™ (NMOL) is the initiation of a Graduate Fellows program, in which researchers from each of the NMOL domains are supported for a two-year period, during which they will author a “State of the Domain” report. This report will include demographic information, the state of the science for the domain, positive and negative experiences with interventions, and a series of recommendations for policy options, business opportunities, and directions for future research. These reports will together create an informed basis for action.

Each researcher will be located in the lab of their faculty advisor, continuing their own individual research (which will be connected to NMOL), coming together twice per month with the other Fellows to share progress across domains, develop an inter-disciplinary network, and hear from expert speakers. This symposium will be central to the Fellow program and SCL plans to bring in speakers from across the range of domains. The effects of early childhood trauma, how older workers transition to more meaningful careers, and a seminar on writing for non-academic audiences are examples of topics that will be covered early in the series. The speaker presentations will be open to the larger Stanford community with the intent of growing the NMOL community across campus.

The Fellows program will begin at the start of the Fall 2019 quarter. Current work is centered on identifying the Fellows and advisors, funding sources, and structuring the seminar series.

Fellows will be hired in the following domains:

- Early Childhood
- Education
- Environment
- Financial Security
- Fitness
- Healthcare
- Intergenerational interactions
- Work

Global New Map of Life™ Meeting, Bellagio Centre, Italy

The Rockefeller Foundation sponsored meeting, A Global Agenda for a New Map of Life™, takes place on 23rd to 27th September 2019 at the Bellagio Centre in Italy.

The main aims of the meeting are:

- To arrive at an agreed set of core principles that define a ‘longevity’ approach to demographic change with those core principles identify key drivers to support this approach
 - Use these principles and drivers to list a key set of indicators that could form a global agenda for the next ten years
 - Instigate a global network of regional initiatives that try to further this agenda in each country/region in attendance.
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We have received a tremendous response to the meeting and its associated initiatives, both from attendees and others who wish to be involved with its outcomes. After the initial Bellagio meeting, there will be regional launches to promote the outcomes of the meeting. The Rockefeller Foundation sponsors the convening of the meeting and additional financial sponsorship contributions are being generously provided by other providers including, the London Business School for research support, Prudential Singapore and Tushara Canekeratne. Over the next 2 months a White Paper will be prepared by Laura Carstensen, Michelle Barry, Andrew Scott and John Wong.

Current invitees are:

- Hiroko Akiyama, University of Tokyo
- Michelle Barry, Stanford University
- John Beard, World Health Organization
- Wilf Blackburn, Prudential Singapore
- Axel Borsch-Supan, Munich Center on Economics & Aging
- Tushara Canekeratne, Nadastra
- Laura Carstensen, Stanford University
- Martha Deevy, Stanford University
- Victor Dzau, National Academy of Medicine
- Verma Geetu, Unilever
- Andre Kengne, South African Medical Research Association
- Jiehua Lu, Peking University
- Deborah Quazzo, GSV Accelerera
- Julia Randell-Khan, Encore Fellows UK
- K Srinath Reddy, Public Health Foundation India
- Luis Miguel Gutierrez Robledo, National Institute on Ageing
- Jack Rowe, Columbia University
- Andrew Scott, London Business School & The Longevity Forum
- Mary Ann Tsao, ILC Global Alliance/Tsao Foundation
- David Willetts, Resolution Foundation
- Paul Wise, Stanford University
- John Wong, National University of Singapore

INNOVATION HUB *Susan W. Golden, Visiting Fellow; Innovation Hub Lead*

The Hub was initially launched in 2017 in conjunction with the Stanford Distinguished Careers Institute, to connect DCI fellows across cohorts through topics of shared interest around innovations for Longevity, and support them in generating ideas that could have meaningful social and economic impact.

In September 2018, a special Think Tank was held with various stakeholders around the University to determine how to scale and expand the work of the Innovation Hub. It was recommended that the work of the Innovation Hub related to the Innovations for Longevity be spun off as its own entity, The SCL Innovation Hub, to enable it to scale and expand its focus. It was also recommended that a new initiative for the Stanford Distinguished Careers Institute be created now named dciX*, that would use the model of affiliating Special Interest Groups with different Centers for Institutes around Stanford, and that will help foster intergenerational connections for projects, innovations, coaching, and mentoring.

Under the umbrella of the SCL and the Innovation Hub, the following activities and exciting developments have taken place:

New GSB Course Approved - Longevity: Business Implications and Opportunities

Beginning in Winter quarter 2020, a new course will be offered by the GSB co-taught by Laura Carstensen and Rob Chess on the Business Implications and Opportunities for Longevity. This is an outgrowth of the course taught last Spring by Laura and Susan (Longevity Innovations Psych 233), the Working Group topics, and the Longevity Innovations Speaker Series that was initiated in 2017 by the Innovation Hub. This will be the first time a business school is offering a course devoted to this topic. Planning for the new course will take place in 2019 in conjunction with the Innovation Hub.

Roundtable on Impact Investing for Longevity Innovations

On November 9, 2018 the Innovation Hub in conjunction with the DCI Impact Investing Special Interest Group, convened a first time Roundtable on Impact Investing for Longevity Innovations. GSB faculty, corporate CEO's, impact investors, DCI Fellows and SCL staff were among the participants to help identify the unique investment opportunities and needs for innovations related to longevity. The goal is to disseminate the recommendations, and engage more impact investors to recognize the opportunities for impact and investment related to longevity. Several themes emerged including the need for new policies to enable faster development of housing alternatives in California; identifying innovation opportunities throughout the lifespan for the New Map of Life; and challenges of customer acquisition for innovations that will form the basis for new working groups and think tanks sponsored by the Innovation Hub.
